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OF THE

American Medical Association

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THE ANNUAL SESSION, IN THE SEVERAL SECTIONS, TOGETHER WITH THE

MEDICAL LITERATURE OF THE PERIOD

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GEORGE H. SIMMONS, M.D.

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ORGANIZED MEDICINE: ITS INFLUENCE AND ITS OBLIGATIONS *

JOHN B. MURPHY, M.D.
CHICAGO

It is the purpose of every man's life to do something orthy of the recognition and appreciation of his fel- w-men. There is no accomplishment of mine of suf- ient importance to have merited the honor which you e conferred on me in electing me President of the American Medical Association, with its 34,000 mem- ers—the largest and perhaps the most influential body f medical men in the world. For your generosity in hus honoring me. I am most grateful. The span of man's activity is so short that many who are most worthy cannot receive this honor: that you should have conferred it on me affects me profoundly. In return for your confidence it will be my pleasure to give my best energy, thought and judgment to the welfare of the American Medical Association during the ensuing year.

ANNUAL MEETING

I would suggest two innovations in the programs of the annual sessions of the American Medical Association. The first has been devised and experimentally augurated at this meeting by the chairman of the mmittee on Preventive Medicine and Public Health, . W. A. Evans. It consists of a series of lectures and emonstrations to the public and should be made a part the annual exercises. The second is a recommenda- n to the House of Delegates that there be two clin- l days before and two after the meeting.

In regard to the first, it is not quite in keeping with larger economics of to-day that the American Med- l Association should annually gather a large number medical luminaries and have them depart without aving lasting impressions on the public mind of the nmunity in which the meetings are held. Advan- e should be taken of these occasions to produce a rited public awakening in medical and health truths. here should be an extensive and accurately planned ourse of instruction on health and disease by the master teachers of the profession through lectures, exhibitions, lantern demonstrations and moving pictures. These hould be free from technicalities and pedantry, should istle with information but should be presented in a nple, comprehensive and attractive manner.

Concerning the recommendation for clinical exercises connection with the annual session of the American dical Association: Most of the members devote at ist a week to al on ting, so there would be no spe- al loss of Still further ics should be in charge of struction should select the ablest teachers ticles, not alone liseases, giving the in their special line. The material for the purpose of demonstrating pedagogic principles, diagnostic points, clinical results, etc., may be supplied by the local profession or brought from a distance. These clinics should not interfere with the general or section sessions. Information imparted in this way is far more attractive as well as instructive to the attending members than papers and discussions. If deemed advisable, inquiry and discussions may be carried on at the clinics. The Society of Clinical Surgery has demonstrated beyond question that clinical meetings are most attractive, instructive and inspiring and are the best means of advancing, coordinating and standardizing medical information. A striking example of the enthusiasm, appreciation and desire for this type of meeting was brought out in the first Congress of Surgeons of North America, organized by Dr. Franklin H. Martin and held in Chicago, in November, 1910. A still further evidence in favor of these clinics, if one be needed, is the ever-increasing attendance of busy practitioners in the surgical and medical clinic arenas. Men are inspired by seeing others doing and in action rather than reading or hearing about them. The clinics should be on diseases of the every-day type, accentuating the most recent advancement in diagnosis and treatment rather than surgical operations or demonstrations of unique and rare cases, except when these support or establish new principles. Methods of teaching should be particularly emphasized. Clinical pedagogy has received little or no attention, and as clinics involve one-third of the time of the medical students, it calls for active and definite lines of procedure in order to secure the best results. I feel that these clinics will increase the interest, enhance the educational value and double the attendance at our annual meetings.

INCREASE IN MEMBERSHIP

Let us next consider how the American Medical Association can be made more serviceable to the whole American medical profession and therefore to the American people. The first question is, shall the membership be increased? An increase in our membership is necessary for many reasons. First: The great volume of work demanded of the organization requires funds and this necessitates a larger membership. Second: The accomplishment of this work requires the influence of all the respectable and redeemable members of the medical profession in the remote districts, as well as in the great centers of our commonwealth. It is impossible to say how many of the men who have graduated in medicine remain affiliated with medicine and continue to practice. Of the 140,000 medical men in the United States, according to the second edition of the American Medical Directory, at least 100,000 should belong to this organization. The practical doubling of the present membership from 35,000 to 70,000 should be an

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erican Medical Association, Los Angeles, June, 1911.

easy matter when we have in the states over 55,000 doctors receiving The Journal. Surely every one of these should be an active member. Nearly 75,000 have joined the county societies, and only 35,000 of these are members of the American Medical Association. The remaining 40,000 should be active members of this organization within the next twelve months as they have taken the first step, namely, the establishment of their eligibility to this association. I hope that Dr. Thomas McDavitt, of St. Paul, chairman of the Committee on Uniform Regulation of Membership in County Societies, will, at this meeting, report a practical plan for the increased admission of members to the County Societies. What percentage of the doctors in the various states do not belong to the American Medical Association? It ranges from 77.5, 76 and 75.5 per cent. in Mississippi, Arkansas and Tennessee, respectively, to 33, 38 and 40 per cent., respectively, in Utah, North Dakota and Minnesota.

The method of becoming a member of the American Medical Association could be improved. When a man joins his county medical society he does not become a member of the American Medical Association; he becomes only eligible to membership. In some states a membership in the county society carries with it a membership in the state medical society. In other states the county membership establishes only eligibility to the state society. A committee of the Board of Trustees has already been appointed to consider this question. I recommend that this committee be enlarged by adding a number of members of the House of Delegates, and that this joint committee act promptly in bringing about such changes in the Constitution or By-Laws as is necessary to make every member of a county society a member of the American Medical Association. This could be easily carried out were it not for the difficulty of adjusting the relative finances of the county, state and national associations. A small fee for admission to these societies, say $1, to be collected by the state or county organization, and a portion of it forwarded to the other organization and the American Medical Association, would probably be the best plan, under the existing conditions. Careful consideration should be given the amount of the annual dues. This should be computed on the basis of the direct or indirect benefit derived by the individual from his connection with the Association. A $5 annual due is much too large for a great and widely distributed membership if nothing additional is done for its members. If, on the other hand, one or more periodicals are distributed, courses of study are furnished, lectures are made available, pamphlets, text-books, etc., are provided at a saving, a medical defense is instituted, places for self and society help installed, inferior competition controlled, the practice made more honest and the public educated—the annual dues of $5 are less than the profession will be willing and anxious to pay and less than the Association will need for the work, however economically it may be administered. If a membership in the Association is *only a paper asset*, a $1 due will be collected with difficulty. The Association must be actively doing for its members in many and divers ways; some of them direct, others indirect. The indirect benefits derived from the Council on Medical Education, the Council on Pharmacy and Chemistry, colossal though they be, are not appreciated by the average medical man, although he is a gross debtor to the organization for these services, be he a member or non-member

The fixed charges, as administration expenses, cost of maintenance of the Council on Pharmacy and Chemistry, the Council on Medical Education, the Council on Health and Public Instruction and the Judicial Council, which I shall presently advocate, should not be decreased but rather increased if necessary to advance their efficiency. The largest item of expenditure is for the maintenance of The Journal of the American Medical Association, which is now the best journal of its kind in the world, printed in any language. Its position must not only be maintained but it must be the leader in the medical progress of our time. Our pride in it is justifiable. Besides its great prestige as an educator, it is the best business asset of our organization, for which Dr. Simmons, the Editor and Manager, deserves great credit.[1] Its character must not be altered, notwithstanding the fact that it is becoming too technical for many of its readers and would be still less advantageous to the additional number which we wish to draft into the Association through the state and county medical societies.

THE JOURNAL ADVERTISEMENTS

With a membership of 100,000, is it possible to reduce the price of The Journal and recoup the difference by increasing the number of advertisements and their rates? Such a Journal would no doubt have a circulation of 125,000, including subscriptions from non-members, and would mean 6,500,000 copies a year. This large circulation would make it attractive to advertisers who had never made use of the medium of medical journals before.

Under those circumstances I can see no reason for refusing any advertisement of a reputable character, which tells the truth—the dividing line between the good and bad in advertisements everywhere. One of the great pioneer, praiseworthy works of The Journal of the American Medical Association is that it has always demanded clean advertisements and insisted that advertisers of medical products in and outside of the profession shall tell the truth. This rule is extending to the better class of newspapers, periodicals and magazines. It might be that a vigorous advertising policy along these lines would increase the revenue of The Journal sufficiently to take care of the added cost of large circulation, so that The Journal could be furnished to the members at a reduced price.

SMALL JOURNALS

There is still a larger field open to this great educational organization. There are many general practitioners who are keen, earnest, industrious, over-worked and ethical men, who desire and require scientific medical assistance. They are diffident and reluctant to ask for it. It should be the purpose and accomplishment of this body to deliver to them this information. The channel most available is by the establishment of a dollar monthly periodical, this to contain working abstracts of articles in the larger journal, original articles on the pathology, diagnosis and treatment of the more common ills, such as malaria, typhoid, diphtheria, tuberculosis, syphilis, hookworm, etc., brought up to date and by authorities, so that a man may have the latest information on the every-da[illegible]seases at his command. This will appeal to m[illegible]oners who have had only a moderate amou[illegible]ining and are unfamiliar with the [illegible] can carry in addition, personal news, medical economics, courses of instruction, legal decisions on medical subjects, write-ups on climate, states, cities, hospitals and men; in other words, a breezy, gossipy, personal helpful magazine containing a large percentage of the most modern practical medical facts.

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[1] Secretary's annual rep [illegible]

I would recommend to the House of Delegates that a special committee be appointed to investigate and report on the practicability of such publication.

THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

The work of this Council, of which Dr. Henry B. Favill is chairman, can best be appreciated by an analysis of a report of its secretary, Dr. Green. It has been all that we should anticipate or expect since its reorganization. Health has received more attention than public instruction. It is my belief that public instruction in medicine is one of the most important functions which the American Medical Association has to perform. The first and all-pervading idea of our medical heritage is the public—the people—and concretely the patient. The latter is the center of the medical universe, around which all our works revolve and toward which all our efforts tend. For centuries the medical profession has criticized the public for its lack of judgment in its selection of doctors. The public has employed the quack; it has employed the irregular or sectarian; it has employed the psychopathic and Christian Science healer; it has employed the bone-setter, the chiropractor, etc. These were employed not alone by the ignorant, the foreigner or the poor, but by the so-called "intelligent, reasoning, educated" and wealthy people of every community. They place a greater amount of confidence in all of these healers and more enthusiastically support them than they do the regular members of the medical profession. Why? Are they more skilful? Are they more worthy of confidence and support? Not at all! But they give the patient some kind of explanation or reason or working hypothesis for the results they attempt to obtain or claim they secure. In other words, they educate the people in their theories, beliefs or sophistries and that is what the public wants, in fact, what it demands. What has the regular medical profession done to educate the public in the last three centuries? Nothing! We have demanded of the public our acceptance on blind faith and the age of blind faith in individuals is passed. What have we taught them of the real truths or principles of scientific medicine? Nothing! What beacon have we set for the layman to assist him in the selection of a skilful practitioner? None! Still, we daily condemn him for his lack of judgment in these matters. The people should be educated in the basic principles of medicine through the publication of articles in the daily or weekly press. These articles should be prepared with the greatest care so as to present the facts in a scientific yet comprehensive manner. There should be established in every large city subcommittees for "lay press publications," so that, when the layman wishes authoritative information in any particular line, he can write to the press and it, through this committee, can give him a clean-cut, positive and authentic report on what has been accomplished in any particular line. If the local committee lacks the information desired, it can be obtained from the central council on public education.

Still further—the Council on Health and Public Instruction should supply the lay press with extensive articles, not alone on the novelties but on the common diseases, giving the people plain information on the true nature, etiology, means of transmission, early signs of disease, etc. How much the mortality of the acute surgical diseases, the acute medical diseases as scarlet fever, diphtheria, pneumonia, etc., and the chronic diseases, as cancer of the lip and breast, tuberculosis, etc., could be reduced if the laity had a little instruction from the profession as to their early recognition, the danger of delay and the line of action in their treatment!

Up to date, the "patent-medicine" almanac, quack advertisements and leaves of healing have been the principal instructors of the public. In addition to this, it has been served by enterprising reporters with accounts of addresses, clinics, etc., in which truth and science are violated in almost every line and with the facts garbled and presented in the most sensational manner. Unfortunately the public accepts these as truths. So long as the above continue to be the only sources of public education, just so long the public will be their patrons. When we supply it with its medical education based on science it will become affiliated with us and sustain us in our every effort. If it were known that the business of this committee was to give authoritative information, the newspaper editors would appeal to it regularly. The education of the public is the most important obligation of this Association. As this advances, our science and our art will receive the admiration and support which true worth once understood always commands.

THE PHYSICIAN'S STATUS PRÆSENS

In society there is division of labor. Honors and financial support are given to those who serve the community well: the indifferent receive meager or no support. This is true of organizations and of men. Being true, it is profitable to inquire what is the standing of physicians?

We find that *certain* medical men are better supported by the community than medical men have ever been in the history of the world, but the *average* medical man is not so well paid as he was twenty years ago and the earnings of a large group are less than the earnings of those belonging to organized labor. Especially noticeable is this when we compare the declining earnings of general and "contract" practitioners with the advancing earnings of artisans and the increase in the cost of living. Society cannot afford to support its physicians indecently. It demands of them a certain standard of living but does not pay them legitimately enough to maintain that standard. The results are manifold but they all amount to the same thing. Physicians therefore are forced to obtain, legally or otherwise, enough to bring them a living income. They cannot have money or leisure for study and books and the community receives poor and out-of-date service commensurate with its payment. They lose in moral stamina and become quacks, advertisers, commission men, fee dividers, professional witnesses, etc.

For these sins I am not excusing the medical profession; I am using this high office—the presidency of the most powerful medical organization in the world—to say to legislative bodies that the horrible cost of poor medical service in invalidism and mortality falls on the community and that for it the community is greatly to blame, because its legislators have almost universally failed to enact sufficiently strict state laws controlling the practice of medicine; notwithstanding the repeated and urgent requests made by the profession for their enactment, they have not demanded, through their respective state boards, a high standard of education for license to practice; they have not prohibited quackery in all its forms by an adequate penal code; they have not supported the medical profession in its altruistic efforts to render to the people a better service. There must be a national, legal standardization of medical educational institutions and medical practice laws corresponding to that controlling interstate commerce.

The remedies I can only touch on lightly. They lie in a better equalization of the supply of and demand for medical men; better preparation for the art of practicing medicine to be brought about by better medical colleges, supported by private endowment, or by the state if necessary, and the legal suppression of incompetent ones.

COUNCIL ON MEDICAL EDUCATION

The Council on Medical Education, of which my colleague, Dr. A. D. Bevan, is chairman, has won distinction and should receive the highest commendation of this organization. The work it has accomplished in a few years is marvelous when we consider the personal and financial obstacles which it has encountered and overcome. The number of medical colleges in the United States granting degrees has been decreased through the efforts of this committee from 166 in 1904 to 129 in 1911! Of this number only sixty are doing really acceptable work. The number of medical students has been reduced from 28,142 in 1904 to 21,526 in 1910 and the number of graduates for the same period from 5,747 to 4,440. The greatest effect of its labor is in the general uplift of the standard of admission to the medical schools. Twenty-eight medical schools are now requiring as a minimum for entrance two or more years of work in a college of liberal arts, in addition to a four-year high-school education. Ten additional colleges require one year plus the high-school course. There will be four added to the latter in the present year. Thirty-five per cent. of all medical students in 1910 and 1911 were enrolled in the higher grade colleges. They deserve credit for the grading of the medical courses; the increased final requisites for graduation; the elevation of the standard by state boards for admission to state examinations (eight now require preliminary work in a college of liberal arts before entering a medical school); and the stimulation in the public mind of interest in the higher medical education. This Council has completed two tours of inspection of all of the medical colleges in the United States and is now entering on its third.

The admirable work of this Council should be supported financially by the Board of Trustees and morally encouraged by every member of this organization and every one interested in higher education. Its report should be carefully read by all the members of the profession.

MEDICAL EDUCATION

I cannot refrain from sounding a note of warning in connection with medical education, lest we become faddists. In the medical college of thirty years ago a large percentage of the professors were "chosen for chairs" in the college faculty because they had attained some local or national reputation as practitioners; were friends or associates of one who had the organization of the new school in hand; or possessed the all-essential requirement—a sufficient amount of money to invest in the stock or partnership. These selections were often made regardless of the professors' special knowledge of the subjects they were to teach or their ability to impart it if they possessed it. The students were forced as a requirement for graduation to sit for hours each day within the hearing of men ill informed and incapable of teaching. There were, however, many very able teachers in the colleges, though selected in this hap-hazard way. This condition did not exist alone in the third-class schools but in the first and second (modern classification). To be relieved of this we all looked forward to the time when the university would take charge of medical education; when the professor or teaching head of a department would be selected because he was particularly well informed on his subject, and could better instruct the student. The university control is here but with what result to the student? The departmental head is now a man of world-wide reputation as an original investigator, a discoverer, laboratory expert, etc.; but as a teacher, one capable of imparting information to a student or a class in an acceptable and attractive manner, he would not, in a considerable percentage of cases, receive a grading of C in a third-class medical school (Flexner's estimate), notwithstanding his abundant information on the subject. Original investigators ride their hobbies in the class-room to the exclusion of much accepted information in their branches which the student needs more than he does the individual's special trend of thought now given him.

The president and the faculty of a university should elect as teaching head of departments men capable of imparting information with force and in such a way as to be grasped, appreciated and retained by the student body.

There is a place and a first one for the special investigator, the discoverer, the laboratory and the original research man, but it is not in the delivery of the products of medical attainment to the student (unless he possesses special qualification as a teacher) that the best results in medical education can obtain. The laboratory idea has dominated education for the past decade. Much of the instruction has been given from a purely scientific standpoint; the department has been controlled by purely scientific men who had little or no knowledge of medical practice—often not even medical graduates—and they fail in establishing a relationship between the scientific facts and disease. The mission of the university medical department is not primarily the training of original investigators, but of educating physicians for the practice of medicine, i. e., training men who can apply the scientific knowledge to the patient, who is the hub of medical education. In the first one-half or three-fifths of the medical course of the modern university, the student is not brought in contact with the patient at all, and when he enters the junior or senior class, though overflowing with isolated scientific facts, he is woefully incapable of applying his scientific knowledge to the patient. The clinical phase has been in a minor rôle dominated by the laboratory idea. If pure science is to be the all-absorbing topic of medical education for the first two years, then a fifth year must be added to the curriculum, which should be, preferably, an internship in a good hospital. Laboratory research, experimentation, chemistry and bacteriology must all aid in the prevention of disease, and assist in the interpretation of symptoms, physical signs, clinical history into their pathologic entities and their etiologic factors—the only basis for rational therapeutics and the highest attainment in medicine, next to the original discovery of principles.

In order to meet the educational requirements for matriculation in the modern medical school, the young man is forced to keep his face in the folds of books from his infancy. He has had no opportunity to think, he has not been taught to think, he is a book-stuffed, machine-made, non-thinking automaton albeit a fit and acceptable applicant, according to present requirements, from which a medical school is *supposed* to make a thinking medical man. What marvelous powers a medical school must possess! How is it possible? What changes should be instituted in the evolution of the medical embryo?

Independent thought comes from men whose minds have not been warped by too close adherence to books and the thoughts of others but whose interests have been evolved by individual work and observations, and seeing others work rather than reading of it. An old Arabian proverb reads: "A fig-tree looking on a fig-tree becomes fruitful." An entrance examination of every student should be made by a committee in each state appointed by the Council on Medical Education, to determine his intellectual capacity. In addition to this, account should be taken of his previous condition of servitude at books, in schools and in other occupations. His first year should be one of probation, after which time a competent examining body should pass on his fitness to continue his course. There should be a readjustment of the curriculum so as to give a better-balanced instruction ration and thereby develop more serviceable practitioners as a finished product of medical college education.

GRADUATE STUDY

When a license to practice has been granted a graduate of a medical school it should be only for a period of, say five to ten years, at the end of which time he should be required to pass an examination or take a prescribed course of study. This provision is necessary to keep the general profession abreast of the times. A few enthusiastic men endeavor to accomplish this result now without the legal license requirement, by attending every year or two a course of postgraduate or clinical instruction, in their own or foreign countries. This would greatly improve the efficiency of the medical profession and the trusting public is entitled to it. This plan is not so novel as it seems, as in both the army and navy services periods of demonstrations of mental as well as physical fitness are required.

The development of postgraduate medical teaching in the county medical societies would be advantageous as an educational factor. The excellent courses of study outlined by and put into effect by Dr. Blackburn, of Bowling Green, Ky., in the Warren County Medical Society, should be used as a model. The educational features so ably represented by Dr. McCormack should expand from an individual labor to an organized machine, working through many men and reaching every reputable or redeemable member of the medical profession. No scheme or plan for the betterment of physicians in this country is workable that does not provide for strengthening medical societies—and to be specific—the American Medical Association and its component parts. Postgraduate college work should be controlled by the medical departments of universities. This most important branch of medical training should not be allotted to private corporations any more than undergraduate medical training.

POLITICAL ECONOMY

In every plan of social settlement there are two sets of agencies, governmental and extragovernmental. When the former fails in doing the work, philanthropy, charity, or good citizenship takes up the burden and society leans on it until a public sentiment is created, forcing the government to act—as in the prevention of tuberculosis, child welfare, etc.

The work of advancing medical science, of conducting experiments, of carrying on research, of discovering truths, of devising methods, of educating physicians, of holding them to ethics, of supplying them with modern information, of keeping them honest, upright and courageous—all these, society should itself be doing through government. Since it has failed, we of the profession are forced into the breach and at our own expense are carrying society's burden.

In Italy, the governmental principle has been established. On June 9, 1910, the Italian Chamber of Deputies and the Senate passed a law that every practicing physician in Italy and the provinces must belong to the national society called "The Order of the Doctors." It has absolute control of its members in all matters except in criminal or malpractice proceedings.

I recommend a careful study of this example of political economy, not only by the House of Delegates of the Association, but by political economists of the country. Until such time as our government is prepared to take these advanced steps, we should occupy ourselves with the study of methods whereby the American Medical Association can be made more serviceable to the American public. This Association will miss one of its greatest opportunities if it does not consider its duties outside of those directly concerning the medical profession.

The brunt of labor and expense in research has fallen on the profession. In some directions the results benefit the profession in a material way; in the majority of cases, however, they decrease the revenue of physicians, but greatly benefit the public. These scientists receive as a rule no compensation for their labor and, when a great discovery is made, a new principle established, or a life-saving invention produced, they never receive the same reward that comes to the discoverer or inventor in other fields.

DEFENSE OF MEDICAL RESEARCH

The right to conduct animal research is fought for by medical men almost single-handed. The contest for a national department of health for the prevention of disease has been made in the main by medical men. The struggle for health legislation is made mostly by medical men. Can any one doubt the sincerity of the medical profession in these struggles when their accomplishment means a great reduction in its revenue? The efforts of the general public and the profession should be cooperative, never antagonistic, to obtain the best results.

What is the character of the people in *opposition* to this work and what is the character of the natural force which is more deadly than opposition?

The opponents are ill-balanced sentimentalists—people with limited capacity for estimating educational or health factors—people without capacity for perspective (such as the antivivisectionists and antivaccinationists), and people with less intellect or integrity than any of these: half-way medical men, as osteopaths, chiropractors, etc.; people with theoretic creeds whose basic belief is against the physician in its sorry attitude, such as a minority of Christian Scientists; the suppressed patent and proprietary medicine venders of worthless or dangerous drugs; a group of men who have suffered financial loss through a growing demand made and fostered by this organization, that advertisements in newspapers, magazines, proprietary and "patent-medicine" pseudomedical journals; shall not lie; those whose often criminal and always fake practices have been destroyed by exposure through the medical profession; and lastly a group of erstwhile convicted criminals thirsty for revenge, now of quasi-respectability, affluence and power, whose past reeks with obscenity, vulgarity, immorality or crime.

The gross and unpardonable indifference of the people to their own physical welfare, that of their children and neighbors, is more discouraging and a greater barrier to progress than active opposition. It requires some great calamity to arouse the dormant public mind to an appreciation of its interests and its responsibilties and to the penalty it pays for inactivity.

A HEALTH JOURNAL FOR THE LAITY

How can we make the people see and understand that the obligation is theirs more than ours? How can we affiliate the people if not induce them to take the lead?

I would respectfully recommend the establishment by this organization of a health journal for distribution to the laity. It should have as associate editors, sanitarians, sanitary engineers, sewage and water engineers, sociologists, tenement workers, school teachers, child welfare workers and others with allied purposes. Such a journal should appeal to the general public, to the commercial interests, to the employers of labor, to the school boards, and more especially to mothers and home interests.

This journal should be self-sustaining financially. I suggest that the House of Delegates at this meeting appoint a committee to confer with the American Public Health Association on this very important matter.

ASSOCIATE MEMBERSHIP

I respectfully recommend that the By-Laws be so amended as to provide for an associate membership, admitting those who are making a life-work of or special effort for the betterment of the physical condition of man, as the noble bodies of non-medical men and women who are fighting tuberculosis, infant mortality, bad milk, bad water, and bad housing. These workers logically belong with us as well as medical scientists who are not medical graduates, pharmacists, dentists, etc.

I would further recommend that the committee on membership work out a plan by which the national, state and local organizations of these physical welfare activities may be affiliated with the American Medical Association and its component state and county societies.

Two weeks from to-day, July 11, the National Educational Association meets in San Francisco. The teachers of America have been powerful in the work of physical betterment. They are in a most advantageous position, for the seed of the truths of health once implanted in the child's mind grows with it and continues to bear fruit through life. This is well appreciated by religious workers who say: "Give me the child and the continuity of religion is safe."

I, therefore, recommend that the House of Delegates appoint a committee to bear to the National Educational Association the greetings of the American Medical Association, and express its appreciation of and thanks for the work they have done for the physical welfare of children and the hope that their future efforts may be materially increased. It would be desirable to have the committee arrange for an annual cooperative symposium at both of the national gatherings.

The Council on Health and Public Instruction should be placing health lecturers in every county in the union; also educational folders, leaflets, public press articles, etc., for the use of the local county committee for presentation to the public through these agencies.

When the people are educated and interested they will support and enforce every proper method for their betterment, and eventually we shall have as scientific an organization for the protection of the health of the people and their interests as we now have in the Department of Agriculture for the health of animals and plants. The movement will be irresistible. The physician is the natural flag-bearer; the people, the great beneficiary. The latter, however, will never sustain him in that position unless they have the utmost confidence in him. They will not enlist as his workers in his movements until he shows that he possesses and practices a standard of morality and integrity that is irreproachable.

IRREGULARITIES AMONG PHYSICIANS

Now, I have an unpleasant and most painful duty to perform, and that is to call this body's attention to the shortcomings of the medical profession—to the irregularities, immoralities and crimes that have crept into its practice. These have come to be recognized as public scandals. When public speakers attack us—when pamphlets derogatory to us receive general circulation—when newspapers repeatedly print exposés—there are now, through our years of internal protest and zealous remedial measures, too many in the secret for us to avoid open condemnation. For years within the confines of our organization, we have endeavored to suppress irregular advertising and exploitation. We have succeeded in producing penal enactments against abortion and infanticide, and have fairly well suppressed the practice. We have in many states abolished the quack advertiser and convicted a number of violators of these laws. If the exposure of the guilty physician had no other effect than to destroy the public confidence in that individual it would matter little to the profession in general, but it has a much deeper significance; it lessens confidence in all medical men and in all medical measures.

In assailing vice in every walk of life, there is a sense of humiliation in the admission of its presence, a shudder of horror at its exposure and a strong desire to minimize its malignant import. None of these, however, relieves us of our obligation to attack irregular, questionable and criminal practices with all the force and vigor of the manhood of this organization, with all the strength of the traditions of the profession, with all the impetus of altruism of medicine of all times, so as to preserve and sustain the purity and fidelity of the purpose of the profession in its transmission to our posterity. The medical profession should be the unquestioned forerunner of humanitarian undertakings. Our sacred calling should be exemplified in our acts, that each individual citizen may have every possible opportunity for the conservation of his health and the preservation of his life regardless of his ability to compensate the physician. There is a common, insidious and deadly parasite eating at the root of public medical confidence, and that is the practice of medical fee division, commission paying and the sale and purchase of patients. We should see to it that no man of our profession barters to the highest bidder in commission and fee divisions. He who offers or gives is morally as guilty as he who requests or receives, and no sophistries should be accepted in justification of this atrocious practice. The money changers of the profession must be driven out of the temple of Æsculapius as they were from the temple of religion.

The traffickers in human lives and infirmities must be stripped of their pseudo-ethical shield so that they may be known and recognized by the public. These, though comparatively few in number in some communities, are too great in all to be permitted to associate with the grand and noble, ever-ready and never-failing, unselfish and self-sacrificing body of general practitioners and specialists. A membership in this organization should be a certificate of manhood, of scientific attainment, of moral stamina and of loyalty to the principles of the Golden Rule, the basis of ethics of the medical profession. This united body must assume the responsibility for regulating the acts of its own members and if necessary request the legislative bodies of this great land to place on the statute books acts penalizing violations of professional trusts by doctors in and out of this organization.

This Association is called on by the public to relieve this situation. It relies on the justice and humanity of the cause. It relies on the power and response of your conscience when awakened. It relies on your love and devotion to the honorable traditions of your profession. It relies on your contempt for avarice at the expense of human suffering and human life. It relies on your love for and devotion to your fellow man. It relies on your integrity and sense of duty to your commonwealth, to your profession and to the people to exterminate these evil practices.

It is not sufficient for the profession of to-day to make great scientific advancement. It is our obligation to pass our untarnished traditional ethics in their highest sense to the succeeding generation, because it is only under the guidance of these basic principles of equity that the coming generation can accomplish the greatest good for the greatest number. Each generation must purchase by its deeds of valor, self-sacrifice, foresight and labor, security, blessings and advantages for the succeeding generations.

I recommend that the By-Laws be so changed as to make the Judicial Council a council in perpetual session with a salaried executive; that it hold meetings at least twice a year and as much oftener as is necessary; that it establish rules of procedure varying with the needs of different sections and different times; that it be empowered to appoint state subcommittees for special investigation; that it constitute the court of interpretation of all ethical relations—individual, organized and public; that it decide on and apply the proper remedy for the irregularities in practice; that it be invested with the right of suggestion where local societies are indifferent, unprofessional or unjust, and if this fails that it has the right of action against said society, subject to the approval of the House of Delegates; that it be constituted the court of appeal for any member of the medical profession who is denied membership in the American Medical Association through the refusal of his local society to accept him. After a fair and impartial trial this committee may make him a member of the American Medical Association. An expelled member of a local society may have the same rights.

The plan adopted in some states, whereby a member refused admission to his local county society may be accepted by any other county society in his state appears to be a good one for general adoption.

NATIONAL DEPARTMENT OF HEALTH

There is a deep-rooted public sentiment and a widespread movement throughout the land for the establishment of a national department of health. Senator Robert L. Owen, of Oklahoma, has been conspicuous in his advocacy of this measure. He introduced Senate Bill 6049 in the last Congress, and Senate Bill 1 in the present, for favoring the enlargement of the health functions of the national government. He has a keen insight and appreciation of the economic significance of health conservation. American medicine owes him a great debt for his labor and zeal in advancing this interest. We have already a fairly well-developed general medical service in the United States Public Health and Marine-Hospital Service. It has done excellent work in protecting the Pacific coast against plague, the Atlantic against cholera and the Gulf coast against yellow fever. It has made some admirable studies in its laboratories and added much to the value of the medical literature and to popular health education.

While it has developed greatly it has only kept apace with the great world movements of health. It has not been a leader. Even its most ardent supporters would not claim that it has attained the same degree of efficiency as our national bureaus which supervise the protection of agricultural interests.

If it be argued that public sentiment is not ripe for this movement, it only further proves the point which we make, i. e., that a way must be found to enlighten the people; they will then proclaim their rights and demand protection.

The character of the opposition to and the arguments advanced against this bill are clearly outlined in a personal letter which I recently received from Senator Owen.

UNITED STATES SENATE.
WASHINGTON, D. C., May 27, 1911.

Dr. J. B. Murphy, President-Elect,
American Medical Association.

My Dear Sir: Permit me to express my grateful appreciation of your invitation to address the Association at its next annual session in Los Angeles.

I deeply appreciate the kind manner in which you extend this invitation, and I had very greatly desired to have the opportunity of addressing what is perhaps the most useful and honorable association in the world, distinguished for learning, for intelligent service and for a noble spirit of self-sacrifice and altruism that marks the medical profession above all others.

I had greatly desired to address the Association in order to invite its more active sympathy and cooperation throughout the several states of the Union, in establishing a department of health, which I am endeavoring to do through Senate Bill 1.

The League of Medical Freedom, so-called, which I believe to be a league of those opposed to the Pure Food and Drugs Act, including some very honorable people who have been misled by these sinister forces, has established, I am told, a state league in nearly every state in the Union, with county and town organizations. I am advised that they are supplied with an abundant supply of money to carry on a wholesale campaign, advertising in a big way.

A few days ago I counted on one of the county papers of Oklahoma, on a single page, nineteen "patent-medicine" advertisements. These people are, of course, more or less potential.

The League of Medical Freedom denounces the American Medical Association as a "medical trust," charges it with being opposed to the freedom of the citizen in medical matters, and undertakes to stir up prejudice against the American Medical Association; charges the American Medical Association with being the author of Senate Bill 6049, to establish a Department of Health, which I, myself, drew and introduced during the last Congress without any consultation with the American Medical Association or any of its officials.

I regard it as of the greatest importance that the American Medical Association should exercise every energy possible to correct the false impressions spread broadcast by the so-called League of Medical Freedom. Every county in the United States should be organized and make a demand on the members of Congress representing such county and on the senators representing such state to pass this bill establishing a department of health.

It is true that if a national department of health could, by bulletins, increase the general knowledge of how to prevent sickness, it would diminish the number of sick people appealing to the doctors of the country. It would diminish the doctor's clientage. It would take from him a part of his annual income, but it is a noble sacrifice which every doctor worthy of the name, be he allopath, homeopath, or of any other school, will gladly make for the general welfare. Everybody who knows the medical profession knows this is true, and the base charge made against the American Medical Association that it is a "medical trust" should not be allowed to go unchallenged or unrebuked.

Doubtless it may be true that in some states legislation may have been sought by members of the profession that gave offense to those who were not regarded as members of the so-called "regular" profession. Advantage has been taken of this feeling to stir up the hostility of those who do not practice the regular profession and arouse their hostility to a department of health on the foolish ground that a department of health, being desired by the American Medical Association, must be a bad thing for all practitioners who do not belong to the allopathic school. The truth is that there are many thousands of men who are teaching various forms of physical culture and of preventive medicine who do not belong to any school of any kind—such as Horace Fletcher and men of that class.

I earnestly trust that the American Medical Association will now enter on a militant campaign to promote the public health and to concentrate the federal health agencies in one well-directed, well-organized department which may serve as a light to the health departments and health societies of the cities, counties and states of the United States and serve a function as useful as that of the Department of Agriculture, which has shown itself to be invaluable by disseminating information of a high character.

The new bill introduced by me to establish a department of health (Senate Bill 1) is an improvement on the bill which I myself drew a year ago, and has been modified to meet, as far as possible, some of the criticisms which were urged against the Senate Bill 6049.

The new measure contains express provision that the department officers shall not exercise any activity properly belonging to the states, without invitation from the proper state authorities, shall not enter any private house without permission of the inmates, and shall not discriminate in favor of any school or system of medicine.

The plain truth is that nine-tenths of the activities of a department of health would be devoted to race conservation, and the prevention of disease and death by proper quarantine, by authoritative information on the prevention of sickness put in the hands of the people, so that the people of the United States might be energized in protecting themselves from the typhoid fly, the malarial mosquito, the hookworm parasite, the tubercle bacillus, etc.

All learned physicians approve these things, and from the medical profession I have received the chief support in the effort to establish this department. The medical profession has been shamefully misrepresented, as I have said, as desirous of establishing a medical trust, when, in reality, if this department of health should be established, its first important service would be in reducing substantially the sickness of men, women and children, and thus diminishing the clientage of the practitioner, whose activities, unfortunately are so largely of necessity confined to restoring those who have made themselves sick by ignoring the laws of health.

I wish there could be some way in which the medical profession could be properly compensated for instructing people how to keep well and to become physically better. Perhaps, under the impulse of a department of health, the people will realize the importance, more and more, of authoritative instruction in the laws governing the preservation of health and of physical well-being, so that there might grow up in this country a new system of retaining medical men, charged expressly with the duty of instructing their clientage in the art of "how not to get sick." It seems to me that this might be a topic worthy of consideration and discussion by the American Medical Association.

There has been some genuine opposition to a department of health by some men, earnest and sincere, engaged in teaching the laws of health, and who have the following creed: "Men who are taught to live right do not need medicine; men who do not live right cannot be cured by medicine."

I believe the value of materia medica has been greatly exaggerated, and that there is much force in the creed which I have quoted to express the idea of those who are teaching methods of right living.

Very many thousands of physicians are engaged in this work of teaching right living, but the medical profession itself has so often been hypnotized by the Latin prescriptions of materia medica and the unavoidable recoveries (due to the providence of God), that they themselves as individuals frequently illustrate the violation of the soundest laws of right living, indulging to excess in tobacco, alcohol, food and in other ways, which prevent medical men from being high-class physical athletes and perfect specimens of physical life.

I wish you would do me the honor to say to the members of the American Medical Association that the first duty of a member of that great and honorable body is to present himself to his clientage as a model man, illustrating the glorious effects of obedience to the laws of right living, and that he offer himself as an exhibit worthy of imitation by those to whom he ventures to give advice concerning the most vital of all human possessions—good health and life.

I send the American Medical Association the most cordial greetings, with assurance of my earnest sympathy and admiration for that great body and its patriotic and self-sacrificing membership.

Yours faithfully, Robert L. Owen.

The American Medical Association should, at this meeting, formally and strongly endorse the Owen bill. I respectfully recommend that the House of Delegates instruct the Board of Trustees and urge the Editor of The Journal to use all possible effort in advancing this movement. Furthermore, the Council on Health and Public Instruction should see to it that all of the great physical welfare organizations of this country speak their minds freely and emphatically on this matter. This Association has in the past year agitated and worked for this department without immediate results, but we recognize that in these movements there is always a stage of inertia in the cure of which the factor —time—cannot be eliminated.

SCIENTIFIC ACHIEVEMENTS SINCE LAST MEETING

While there has been no epoch-making discovery since our last meeting, great practical advancements have been made. The treatment of spirochete infections has been greatly advanced, though not mastered. The efficiency of vaccination in the prevention of typhoid fever has been thoroughly demonstrated in the encampment of the American troops at San Antonio. Here 18,000 men were encamped in a warm climate in an unfavorable season and under unfavorable conditions, and not a single case of typhoid originated in a soldier or a camp employee who had previously received the prophylactic vaccination. The prophylactic vaccination for measles has proved very effective. Vaccine treatment of disease as a whole has materially advanced in the last year. We are establishing a definite dosage, acquiring a knowledge of the best interval, and becoming familiar with the serviceable combination of vaccines.

Not infrequently the apparently fruitless years from the standpoint of the public are those in which the best work is done and from which the most potent results eventually flow. There is a steady onward medical movement in the protection given the people against disease.

Living in the home city of The Journal, I have had an opportunity to attend the meetings of the Board of Trustees and become acquainted with the workings of the various councils and standing committees—pharmacy, chemistry, public instruction and hygiene, blindness, etc.—and to see the splendid new building completed and the offices and machinery installed.

I trust that those of you who are not on the Board of Trustees or in the House of Delegates or do not even attend the annual meeting will carefully read the excellent detailed report of the Editor and General Manager, Dr. Simmons, made to the Board under date of Feb. 3, 1911: that you will interest yourselves in the ably edited synopsis of the work accomplished by the Council on Medical Education; that you will analyze and take educational advantage of the reports of the Council on Pharmacy and Chemistry; and that you will scrutinize the outlined plan for the future work of the Council on Health and Public Instruction. These reports are too voluminous to permit of an intelligent resumé here and of too great import to be overlooked by a single member of the Association. A study of these will enlighten you on the scope, force and stability of this mighty organization and impress on you the arduous labors imposed on the Board of Trustees, the Editor and the councils and committees, in conducting this work.

In conclusion I would say that the claim that the profession is overcrowded is not founded on facts. From personal observation of hospital and private practice for a third of a century, I would say that less than 40 per cent. of the people requiring operations are given surgical opportunities for relief. From a medical and surgical experience combined, and through information received from eminent medical men, I would say that not exceeding 60 per cent. of the acute and chronic cases are correctly and timely diagnosed; that procrastination is the curse of medical diagnosis and medical action, entailing an invalidism and mortality. The people foster this more than they do any other shortcoming in medicine.

There is not a sufficient number of competent medical men to treat all of the medical cases, nor of surgeons to do all of the operations, of obstetricians to attend all of the confinements, nor of specialists to meet all of the special demands. What *we* need is a lesser generalization of patients in diagnosis and treatment and a closer individualization of the special conditions and demands. What the *patient* needs is relief of his symptoms. If this were done and efficiently done, every doctor in this great land would be overworked and self-satisfaction in the practice of medicine would be a rarity.

Competency is attained and maintained only by zeal, indefatigable labor and continued efforts in self education. The responsibilities of his profession rest on the individual man. If he shrinks from its weight the burden grows doubly heavy. If he "short-cuts" for success he sinks into the mire of dishonesty and dishonor. If he carries the weight with an erect figure, abiding integrity and a strong heart, it rides like a bubble.

MEDICAL COMPETITION

The physician or surgeon is not in competition with his fellow practitioner at all, but is in competition with the average standard of the medical qualification of his time. This standard is the line dividing mediocrity and incompetency of varying degrees from knowledge and efficiency. He who keeps above the standard desires companionship. Therefore, if we elevate the ethical and educational average, we increase the brotherhood of the profession and enhance the percentage of efficiency to the public. The effect of capital and labor organization has been to lessen individual exertion and reduce men to a common or mediocre level—their decadence is inevitable. The ideal of medicine, on the contrary, must be the stimulation of individual exertion to the highest degree and the establishment of a standard, the attainment of which should be the one great desire of every member of our profession, each to assist the other in his upward progress. Advancement is retarded by the failure of the individual to utilize time and avail himself of opportunity. We are all spendthrifts of time; all overlook great opportunities. Many are ruminants on their imaginary disadvantages in the contest: these never become producers. The demand of the times is that we level every opposition and make smooth the way for general progress, enlightenment, education and the higher ethical obligations. The individual is responsible for his own position and to a limited but positive degree for that of his fellow practitioner. When given a diploma from a medical school or a license to practice, we are all supposed to be equal. But no insignia makes men equal in medicine more than in any other line of human endeavor. By their superior intellectual qualifications, their fidelity to purpose and above all their indefatigable labor the few become leaders. American progress has been made the admiration of the world. The American medical profession has sustained the statements which Emerson made for American scholars, in his Cambridge address, in 1837: "We walk on our own foundation, we work with our home-trained hands; we think with our free-bred courageous brains, and over all we execute with a power of art, admired and imitated by the world."

32 North State Street.

RACE AND ALCOHOLIC INSANITY

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The population of New York City, containing, as it does, such unusual aggregations of people from all parts of the world, furnishes a rare opportunity for comparative studies in race psychopathology. The conditions of an interesting experiment are practically fulfilled in that we find a number of races of pure blood living side by side in large colonies in a uniform, general environment. While this unique situation provides the alienist with material for making observations of great scientific interest, it is also a matter of practical importance for social workers, educators and physicians generally to become acquainted with any data which show the existence of special racial tendencies to disease, to immorality, or to excesses of various kinds: of particular interest are any facts relating to the extent of inebriety or the manifest pathologic effects of alcohol among these various elements which are streaming into our population.

At the Manhattan State Hospital, which receives patients exclusively from the City of New York, we have been strongly impressed with what appears to be a relation between racial types and certain forms of mental disease. We have noticed particularly that in some races alcoholic insanity was remarkably frequent, while in others it was extremely rare. This paper gives the results of an inquiry regarding the relative frequency of alcoholic insanity among the larger racial groups which go to make up the admissions to the hospital.

It is only within the past few years that our knowledge concerning the toxic psychoses has progressed sufficiently far to enable us to make anything like an accurate estimate regarding the frequency with which alcoholic insanity occurs in a community. In the reports issued by the New York State Hospitals, prior to six years ago, "alcoholic insanity" did not even appear in the statistical tables as a recognized form of mental disorder, and no attempt was made to differentiate the alcoholic psychoses from the old groups of mania, melancholia, paranoia, dementia, etc. Alcohol, of course, plays an etiologic rôle and often an important one in many psychoses other than the alcoholic insanities proper, but at present we include in the alcoholic group only the specific alcoholic psychoses — those mental disturbances which arise in chronic drinkers and present a characteristic symptom-complex. This better circumscription of the alcoholic group permits us now to make such comparisons as are here presented with much more accuracy than was formerly possible.[1]

The first analysis covers the following racial divisions which are shown in Table 1: The Irish group is composed of natives of Ireland whose ancestors were Irish. In a similar manner the native Germans and Italians make each a group. The Negroes and Jews form separate groups, without regard, however, to country of birth or length of time in America. For purposes of comparison I have added a group made up of individuals whose parents were born in the United States. This American group cannot, of course, be viewed as representative of any particular strain of blood or ethnologic division, but it is of interest to note how our native stock compares with the other racial groups studied. In a final group we have a remaining heterogeneous collection, containing representatives of almost every race in the world, but in numbers as yet too small to allow any safe deductions.

TABLE 1.—ANALYSIS OF 1,762 CASES OF BOTH SEXES, SHOWING PERCENTAGE OF ALCOHOLIC INSANITY IN THE DIFFERENT RACES AND NATIONALITIES

	Irish.	German.	Italian.	Negro.	Jewish.	U. S.*	Other Races.
Number admitted..	336	193	123	90	455	222	342
Per cent. alcoholic insanity	20	9	5	4	0.6	5	10

* Children of native-born parents.

Table 1 is based on a review of 1,762 cases, in which the patients were admitted to the hospital suffering from various forms of mental disorder. The first line of figures gives the number of persons of each race included among these 1,762 cases. The second line of figures shows the percentage of alcoholic insanity found among each of these racial divisions.

The most striking contrast is furnished by comparing the figures for the Irish and the Jews. Twenty per cent. of the 336 Irish people admitted were suffering from an alcoholic psychosis, while only 0.6 per cent. of the 455 Jews admitted were subjects of alcoholic insanity. Next to the Irish come the Germans, with 9 per cent. of alcoholic insanity, while the Italians showed only 5 per cent., and the Negroes the relatively low figure of 4 per cent. In the American group there was 5 per cent. of alcoholic insanity. All the remaining races lumped together totaled 342 persons and showed 10 per cent. of alcoholic insanity, a relatively high figure, but still far below that attained by the Irish.

TABLE 2.—OCCURRENCE OF ALCOHOLIC INSANITY AMONG MEN OF VARIOUS RACES AND NATIONALITIES

	Irish.	German.	Negro.	Italian.	Jewish.	U. S.*	Other Races.
Number admitted..	127	110	42	75	249	118	183
Per cent. alcoholic insanity	30	12	9	8	1.2	5	15

* Children of native-born parents.

Now when we tabulate separately the men and women, we obtain figures even more striking. Among the men, Table 2, we find the Irish with 30 per cent. of alcoholic insanity—which is two and a half times greater than that found in the next highest group, the Germans. The Negroes and Italians show approximately the same percentage, while the Jewish figure is 1.2 per cent. (this figure represents three cases of alcoholic insanity, the total number found among the Hebrews). The American group shows 5 per cent. In the remaining composite group the figure 15 per cent. is again high.

TABLE 3.—THE INCIDENCE OF ALCOHOLIC INSANITY IN WOMEN

	Irish.	German.	Negro.	Italian.	Jewish.	U. S.*	Other Races.
Number admitted..	209	83	48	48	206	104	159
Per cent. alcoholic insanity	15	3	0	0	0	5	3

* Children of native-born parents.

The figures for the women, shown in Table 3, I regard as particularly interesting. Here the overwhelming frequency of alcoholic insanity among Irish women stands out clearly, as 15 per cent. of the Irish women admitted were suffering with alcoholic insanity. The next highest group is the American, with 5 per cent., while the German women are third with 3 per cent. Not a single case of alcoholic insanity was found among the Negro, Italian or Jewish women entering the hospital.

TABLE 4.—COMPARISON OF RACIAL STOCKS, BOTH SEXES

	Irish.	German.	Negro.	Italian.	Jewish.	U. S.*	Other Races.
Number admitted..	560	291	90	134	455	222	375
Per cent. alcoholic insanity	19	10	4	4	0.6	5	10

* Children of native-born parents.

In the last tabulation, Table 4, a comparison is made on a different basis. An attempt is here made to compare racial stocks and to disregard place of birth. Under the Irish, for instance, we include all the natives of Ireland and the first generation of children born in the United States of Irish parents. In a similar way the German and Italian groups are formed. As in the former tables, the Negroes and Jews are kept apart and form each a group, without regard to country of birth or length of time in America. Also, as in the previous tables, I have restricted the American group so as to comprise only those individuals whose parents were born in the United States. This table covers 2,127 cases, and the percentages obtained from this comparison are very similar to those shown in the first table. The Irish and their descendants rank highest, then follow the Germans, Americans, Negroes, Italians and Jews in the order named. This last table seems to show pretty definitely that about the same disposition to alcoholic insanity exists in the first generation of children born in the United States as in the foreign-born parents.

The figures for the Irish race demonstrate in a most convincing manner the tremendous rôle played by alcohol in the mental disturbances of these people. Unfortunately, we have no reliable data on the extent of alcoholic insanity among the Irish in their native land and natural environment. Regrettable differences in nomenclature and confusion as to what psychoses are to be designated as alcoholic, prevent our obtaining from Irish physicians any figures which might be compared with ours. The Irish working classes of our large cities, are, I believe, rather generally regarded as intemperate people and great whisky drinkers. One should remark that the Irish also, to a large extent, control the liquor traffic, or at least are among the chief dispensers of alcoholic drinks. Occupation is, however, probably not an important predisposing factor, as the high percentage of alcoholic insanity among the women speaks against this.

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[1] Our figures do not include cases of delirium tremens, which are, of course, true psychoses, but which are practically all cared for in the alcoholic division of Bellevue Hospital, thus rendering unnecessary their commitment to a state hospital.

The amazing prevalence of alcoholic insanity among Irish women must be viewed as a serious menace to the mental and physical health of these people and their descendants. I am inclined to believe that our figures mean that the Irish constitute the most intemperate element in our population and that their preference is for alcohol in the form of whisky. The question as to whether they are, as a race, unusually susceptible to alcohol, remains unanswered.

The Germans are evidently less intemperate than the Irish and drink more beer, which alone is far less dangerous to the mental health than the stronger alcoholic beverages.

The Italians, certainly in their native country, are generally regarded as a temperate people, with a preference for alcohol in the form of light wines. The low percentage of alcoholic insanity among those who come to this country is striking.

The low percentage of alcoholic insanity found among the Negroes was a surprise to me. I think that it is commonly believed that immorality and alcoholic excesses are prevalent among the negro dwellers in cities, especially the large communities of the North. That sexual immorality is common, is shown by the fact that among the admissions to the hospital the Negroes stand higher than any other race in general paresis, a disease of syphilitic origin. If alcoholism exists extensively in the colored race, it has not yet manifested itself in mental diseases of alcoholic origin.

The infrequency of alcoholic insanity among Jews has been noted by observers in various countries, even in certain localities where alcohol is taken excessively by these people. The Hebrews that emigrate to America are, I believe, as a class, remarkably temperate. On the other hand, I find that a good deal of alcoholism exists among American-born Jews, but as yet they show no more tendency to develop alcoholic insanity than did their more temperate ancestors.

The results of the study demonstrate that some races, particularly the Irish, are remarkably liable to develop alcoholic insanity, while others, notably the Jews, are almost free from mental disease due directly to alcohol. The question naturally arises: Are some races unusually alcoholic or are they merely more sensitive than others to the poisoning effects of this agent, and, therefore, more prone to break down with alcoholic insanity?

Besides the form and amount of alcohol consumed and the power of resistance possessed against its injurious effects, other important factors undoubtedly come into play, e. g., occupation, social customs, home environment, religious influences, etc., It is, therefore, evident that the causes for this apparent susceptibility of one race and relative immunity of another depend on a number of factors of rather complex nature and about which we should seek more knowledge. In the meantime the indications are pretty definite as to what elements of the community stand most in need of educational and prophylactic measures.

Bacterial Lineage.—"There could hardly be a better example of the scientific spirit than the application of the methods of biometry to those excessively minute organisms, the bacteria. Experiments in this relation marked the beginning of a new era in bacteriologic classification and nomenclature. There have been applied the methods used by anthropologists and students of variations and heredity to the definition of the species of bacteria. The results are, of course, technical in their nature, . . . but they have a broad general interest."—*Scientific American*, June 3, 1911.

CHRONIC PANCREATITIS IN ASSOCIATION WITH GALL-STONE DISEASE *

JOHN B. DEAVER, M.D., LL.D.

PHILADELPHIA

It is now well known, particularly among surgeons, that in close association of the pancreas and its ducts with the common bile-duct we have an arrangement which is responsible for many cases of pancreatic disease. Recently I have collected the reports of seventy-three of my own cases of chronic pancreatitis in which I have verified the *diagnosis at operation. Of these, forty-seven* (65 per cent.) showed demonstrable disease of the *gall-bladder or biliary ducts. Thirty-five, or approximately* one-half, had gall-stones at the time of operation. Mayo found gall-stones in 81 per cent. of his cases of pancreatitis and Robson asserts that pancreatitis is associated with stones in the common bile-duct in about 60 per cent. of all cases. From these and similar observations it has become evident, first, that pancreatic disease is far more common than has hitherto been supposed, and, secondly, that a potent cause of pancreatic inflammation is to be found in what Mayo has aptly termed the "unfortunate association of terminal facilities" of the liver and the pancreas.

The usual descriptions of the anatomy of the pancreas are incomplete in that they do not sufficiently recognize the remarkable variations in the anatomy of the organ. From the standpoints of pathology and surgery we are concerned not so much with the variability in size and form as with the variations in the ducts which drain the organ and in the influence which the usual as well as the anomalous modes of duct-formation exert on ascending infection of the pancreatic tissue and the possibilities of drainage of the normal and pathologic fluids and exudates in conditions of inflammation or obstruction. The more recent studies of Schirmer and of Opie have greatly added to our knowledge of the anatomy of the ducts. Opie, in a series of one hundred cases studied with reference to this point, found both the duct of Wirsung and that of Santorini constantly present. In ninety cases the two ducts had an anastomotic connection. In the remaining ten the ducts were independent and with reference to their size were equally divided in number, in five instances the duct of Wirsung being larger, in the remaining five the duct of Santorini predominating in size.

In the ninety cases in which the ducts were joined within the substance of the gland, the duct of Wirsung was the larger in eighty-four cases, while the duct of Santorini was greater in only six cases.

The duct of Wirsung was found patent in every case. The duct of Santorini was not patent in twenty-one cases, while in more than half of all individuals it was either completely occluded or so narrow as to be incapable of assuming the function of the larger duct when occluded.

In considerably more than one-half the specimens both ducts were patent and the duct of Wirsung which unites with the duct of Santorini was larger than the latter. The usual description of the arrangement of the ducts, therefore, holds true in the majority of cases, but there is still a considerable proportion in which an anomalous arrangement may present a more or less favorable mechanism for the production and maintenance of pancreatic inflammation.

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* Read before the Hospital Graduates' Club of New York City, April 27, 1911

In the diagnosis of chronic pancreatitis the physical examination is not of great service. Occasionally in thin subjects under favorable conditions, the pancreas may be felt lying transversely across the midepigastrium. The greatly swollen head of the organ may at times be palpated and during exacerbations it is exquisitely tender. Rigidity of the overlying muscles usually prevents detection of a mass when inflammation is marked. A sense of resistance or indefinable mass in this situation is sometimes helpful. A point which has interested me is the mobility of the organ. We are apt to suppose that the pancreas is quite securely fixed in its retroperitoneal situation. It may, however, possess a considerable degree of mobility, especially in emaciated patients, when the loose areolar tissue behind the peritoneum has been stripped of its adipose packing. In such circumstances a palpable pancreas may be moved about at will much like a pyloric tumor. This is true only of inflammatory enlargements. Malignant disease fixes the organ immovably in position by infiltration of the surrounding structures.

Simple tenderness in the epigastrium is a very misleading sign. Unless it is well marked but little attention should be paid to it. When it is clearly pathologic it may be due to other causes than pancreatitis. In the above table it was noted in about one-third of the cases, and when clearly localized to the region of the head of the pancreas it may be given weight as a confirmatory sign.

The gastric analysis in my experience has usually shown a subnormal acidity in simple pancreatitis while [illegible] the presence of stones the acid content is more likely [illegible] be normal or higher.

In the absence of signs and symptoms by which we may establish the existence of coexistent disease of the pancreas we have turned to various devices intended to demonstrate whether or not the function of the organ is disturbed.

It is well known that carbohydrate metabolism is closely dependent on the pancreas. Starch digestion is chiefly accomplished by the amylopsin of the pancreatic secretion, while all carbohydrates after their absorption as sugar depend for their utilization within the body on the presence and functional activity of the pancreas. Furthermore, we have reason to believe that it is the islands of Langerhans which are invested with this special function. Evidently disease of the pancreas of sufficient degree to disturb these bodies should give rise to an alteration in the behavior of the body to carbohydrates.

In two of my cases (7 per cent.) there was slight but persistent glycosuria. I have seen still other instances in which glycosuria was demonstrated during exacerbations of pancreatitis, disappearing during the interval.

The assimilation limit for carbohydrates may be lowered in still other cases which, under ordinary diet, do not show glycosuria. That this symptom is not more commonly associated with pancreatitis is fortunate and due chiefly to two facts. First, a small amount of normal pancreatic tissue with its central islands is capable of maintaining the internal carbohydrate metabolism. The body or tail of the organ may be found quite normal even when there is marked chronic inflammation of the head. Secondly, Opie has shown that there are two chief varieties of chronic pancreatitis, the interlobular and the interacinar. In the former type the sclerosis affects almost exclusively the interlobular septa and the central portion of the lobules are protected for a long time. Thus the islands of Langerhans are saved from injury. In the interacinar type the fibrous tissue invades the lobules themselves and may early attack the islands, causing atrophy or hyaline degeneration. It is the interlobular type, which is less dangerous for the islands, that is most likely to follow obstruction to the pancreatic duct and such inflammations as result from gall-stones and biliary infection.

That there is a danger of diabetes even here is shown by my observations and those of other workers in this field. The demonstration of sugar in the urine in connection with symptoms of an organic lesion in the upper abdomen give conclusive evidence for the belief that the pancreas is diseased.

A more complicated test which appears to depend on similar facts is that devised by Cammidge. This consists in the demonstration in the urine of certain crystals which are typical in form and solubility and are believed to be derivatives of a pentose. While I have not been so fortunate as the author of the test in obtaining positive reactions in chronic pancreatitis I have found it constantly present in acute pancreatitis and in the more severe exacerbations of chronic pancreatitis.

In this series the reaction was positive seven times (25 per cent.), negative twenty-one (75 per cent.).

Examination of the feces is important. The typical, large, fatty, diarrheal stools to which the term steatorrhea is applied, is very strong evidence of insufficient pancreatic function. This typical stool, however, is present only in late and extensive disease of the organ. I have already stated that constipation is the rule. Undigested muscle fibers (azotorrhea), if marked, possess some significance, though care must be exercised in interpreting this finding. The presence of an excess of neutral fat or of both neutral and split fats when stercobilin can be shown chemically to be present in the feces is a point in favor of deficient pancreatic secretion.

It is well to note that clay-colored stools do not mean absence of bile, since a large amount of unabsorbed fat and fatty acids will give the same appearance. If stercobilin can be demonstrated chemically it will prove that bile is being discharged into the intestine and that the chief source of the digestive disturbance is not the liver or its ducts, but the pancreas.

I have not made use of the various tests for demonstrating pancreatic ferments in the gastric and duodenal contents and feces. The ferments act in such incredibly small amounts that until pancreatic disease is very marked it seems to me that the ferments must be present in the intestine. When they become so deficient that their lack is recognized *in vitro* it may also be recognized by the grave and characteristic disturbances of digestion. Duodenal tubes and buckets I regard as ingenious toys which as yet have not justified their existence from the standpoint of practical results. No one could be more willing to welcome this assistance in diagnosis and indicating treatment than I, but at present their chief function appears to be the production of income and the delay of surgery.

To recapitulate briefly: Chronic pancreatitis may be suspected of having complicated gall-stone disease when the symptoms point to severe recurrent disease of the choledochus with marked emaciation and disturbance of the carbohydrate metabolism or evidence of insufficient action of the pancreatic ferments on the food in the intestine.

This liability of the pancreas to involvement by gall-stone disease is a strong argument for early operation in biliary infections or cholelithiasis.

The treatment of chronic pancreatitis itself is closely bound up with the surgery of the bile passages. In the surgical treatment of chronic pancreatitis Mayo Robson occupies the same position as Fitz does to the development of our knowledge of the disease. He was the pioneer in showing that free drainage of the biliary tract, and, through this outlet, drainage also of the pancreatic ducts would in many instances enable the pancreas to cast off the infection and resume its normal function. This is, in a nutshell, the principle of the treatment and, though it may seem roundabout, its efficacy has now been demonstrated too often to admit of a question. The easiest and most advantageous method of providing drainage is by a cholecystostomy. If for any reason this is impracticable, drainage of the common duct should be done. At times when the closure of the common duct is complete and likely to be lasting a cholecystenterostomy may be best, but as a general rule external drainage permits subsidence of the swelling of the pancreas and a reestablishment of the functions of the ducts. Drainage should be maintained for three or more weeks at least. It is difficult to keep the fistula from closing too soon, and in cases of marked pancreatic disease it is best to make a cholecystduodenostomy. Just how long such an opening will remain patulous is a question, for I have reoperated on patients on whom this operation had been performed and found the opening closed. It should not be forgotten also that cholecystduodenostomy is an operation of greater magnitude and slightly higher mortality than simple cholecystostomy.

Pancreatitis was formerly regarded as a most dangerous complication of cholelithiasis from the operative standpoint. This doubtless was due to the fact that only the most extreme cases were recognized. In the present series I lost only one patient. The argument for operation is all the stronger if pancreatitis is present, as the danger of chronic invalidism or death is even more pressing.

In spite of optimistic reports and some results of my own which seemed astonishing, I am not inclined to give too rosy a prognosis as to complete recovery in cases in which long-continued disease has caused marked sclerosis of the pancreas.

The best cure for pancreatitis is prevention, which means earlier intervention in calculous and non-calculous disease of the bile-passages.

1634 Walnut Street.

TRAUMATIC TETANUS

RECOVERY FOLLOWING THE ADMINISTRATION OF TETANUS ANTITOXIN

EDWARD N. LIELL, M.D.
JACKSONVILLE, FLA.

The following history evidences the successful use of tetanus antitoxin despite decided symptoms of lockjaw being manifested for three days antedating its use. Fifty-five thousand units of antitoxin were given in all.

History.—Jesse C., aged 10, was admitted to the isolation ward at St. Luke's Hospital, Jan. 5, 1909. He gave the usual history of traumatism, having been injured twelve days previously by the reckless use of a toy pistol, a portion of the wad and blank cartridge lacerating the middle finger of the right hand. On the ninth day following the injury, symptoms of rigidity of the muscles of the lower jaw developed, with slight convulsive seizures; subsequently, the muscles of the neck, chest and back became implicated. On the day of admission, at 2:30 p. m., he had a decided convulsion, which was repeated an hour later. At this time, the wound, of a charred character and but partly healed, was thoroughly excised and a bichlorid dressing applied.

Treatment and Course of Case.—At 4:30 p. m., I injected 5,000 units of antitoxin serum in the muscles over the right shoulder-blade; an enema of normal salt solution was also given.

January 6, 11 a. m., 5,000 units were again injected. Repeated convulsions lasting from a few seconds to two minutes occurred through the night; the patient slept at intervals only; though nourishment was refused, he took water frequently through a tube. At noon, he had a convulsion lasting a full minute. At 4:30 p. m., I injected 3,000 units; 1 pint enema of salt solution was also given.

January 7, 11 a. m., the patient slept at intervals through the night; muscles were contracted but not as rigid as the previous night. He had four convulsions within the past twelve hours; 3,000 units were again injected at this time. Five p. m.; the patient has had light convulsions almost every half-hour since noon; 3,000 units antitoxin were again injected.

January 8, 11 a. m., numerous convulsive seizures occurred during the night, varying in intensity from a few seconds to two minutes; the patient was very restless; refused both nourishment and medication, the latter being chloral and sodium bromid 10 grains each dose; he took water, however. I again injected 3,000 units of antitoxin. Seven p. m.; the patient had several convulsions since noon, one lasting eight minutes though not formidable in character; 3,000 units antitoxin were injected at this time.

January 9, noon, the patient had several severe convulsions through the night; he was very restless, the nurse being obliged to give morphin ⅛ grain hypodermically, as well as 20 grains chloral, per rectum, to control restlessness; 3,000 units antitoxin was injected. Seven p. m.; the patient had frequent light convulsions through the day. For the first time since the onset of convulsions, the muscles of the jaw and neck relaxed somewhat, so that the teeth could be separated 1 inch; 3,000 units were again injected.

January 10, 11 a. m., the patient had through the night eleven seizures, several of which were severe; however, he slept peacefully nearly an hour at one time; 3,000 units were again injected. Eight p. m.; there were several paroxysms during the day, though lighter in character; 3,000 units were injected.

January 11, 10 a. m., patient turned himself in bed, sleeping comfortably on the left side for three hours, with jaws relaxed, without any convulsive seizures during that period of time; he also flexed his limbs voluntarily; however, with this favorable turn in view, I injected 3,000 units. Eleven p. m.; several slight seizures occurred during the afternoon, followed by two severe convulsions about 10 p. m.

January 12, 11 a. m., the patient had seven light seizures through the night, but awoke feeling better; nevertheless I injected 3,000 units. Seven p. m.; paroxysms have been few and light through the day; the patient slept at intervals; 3,000 units were again injected.

January 13, 11 a. m., the patient slept better than usual through the night; turned over himself in bed this morning, asking for nourishment; only 1,500 units were injected this time. Eight p. m.; paroxysms have been light and far apart; the muscles of the jaw and other muscles are more relaxed; 1,500 units were injected.

January 14, 11 a. m., the patient had three severe convulsions through the night, though otherwise he slept well; 1,500 units were again injected. Eight p. m.; the patient had a comparatively quiet day, so no injection was given at this time.

January 15, 11 a. m., only two light seizures occurred during the night; the muscles were much more relaxed; the patient is less sensitve to touch and noise; 1,500 units were injected at this time. Eight p. m.; paroxysms have been few and superficial through the day. Twenty grains chloral were ordered to be given in place of the antitoxin injection.

January 16, the patient had a good night; occasional muscular contractions only occurred during the night; chloral was repeated for the night.

January 17, no paroxysms occurred during either night or day. The patient sat up in bed half an hour. Chloral was stopped.

January 18, the patient slept well all night. He is now sitting up in bed; feeling very hungry, but somewhat annoyed by itching of the skin over the seat of the various injections.

From this time on the patient improved rapidly, having no further muscular contractions or paroxysms. The temperature ranges were from 99 to 101, the latter being on January 9, the seventh day of the convulsions and the sixteenth day following the time of injury. The pulse-rate varied from 84 to 122, the latter being on the 10th; while the respiration varied from 20 to 46, the latter being on the 9th, the date of highest temperature. The patient was discharged from the hospital, well, January 24.

In the statistics at my command referring to traumatic tetanus, the result of Fourth-of-July wounds, out of 350 collected reports of cases, but seven patients are positively known to have recovered. This gives a mortality of 98 per cent. Of these seven cases in which recovery was reported, in five prophylactic treatment had been resorted to before the toxin of tetanus had time to permeate the nervous system. In the other two cases, satisfactory results were attained despite decided symptoms of lockjaw manifesting themselves.

I am well aware of the general teaching advocated through the various state boards of health bulletins that, when tetanus has once developed, antitoxin is practically useless. Yet here is another instance in which recovery followed its administration, the intramuscular method being used because of its simplicity, 55,000 units being administered in all, the first injection being given three days after symptoms of lockjaw had manifested themselves.

140 West Monroe Street.

INFLUENZAL MENINGITIS AND ITS SERUM TREATMENT *

SIMON FLEXNER, M.D.

NEW YORK

That influenzal cerebrospinal meningitis is by no means a rare affection is being shown by the increasing number of reports of its occurrence. Within a few months, in the United States alone, reports dealing with the subject have been published by Wollstein, Dunn, and Davis. Moreover, the disease is highly fatal. All but six of the fifty-eight cases thus far reported in which the influenza bacillus has been detected in the cerebrospinal fluid, have terminated fatally.

Influenzal meningitis is more frequent among infants and children than among adults. It sometimes follows on undoubted influenza bacillus infections of the respiratory tract, and sometimes develops independently of obvious disease of that tract. Since the influenza bacillus is often present in the secretions of the respiratory mucous membrane in children, suffering from a variety of diseases, during the wide prevalence of influenza, it is probable that the infection of the meninges is always secondary to the respiratory infection. Moreover, all or nearly all cases of influenzal meningitis are examples of bacteriemia, since the bacilli have frequently been cultivated in large numbers from the blood during life or at autopsy.

The fact of the frequency and severity of influenzal meningitis was impressed on us at the Rockefeller Institute, where, for a period of several years, large numbers of specimens of cerebrospinal fluid have been examined bacteriologically in connection with the studies being conducted there on the serum therapy of epidemic meningitis. All the cases diagnosed by us as influenzal meningitis terminated fatally.

We undertook, therefore, the experimental investigation of this highly fatal disease. Dr. Wollstein was able to show, first, that the injection of virulent cultures of *Bacillus influenzæ* into the subdural space of several species of monkeys by lumbar puncture would set up a severe and usually fatal form of acute cerebrospinal meningitis that reproduced the clinical and pathologic effects observed in the spontaneous disease occurring in human beings. The effects of the inoculations begin to be apparent about five hours after the injection, and death may result as early as thirty-six hours after the inoculation, or it may be delayed for three or four days. The microorganisms multiply actively and pus cells are quickly poured into the membranes, but few or none of the bacilli are taken up by the cells. In human cases some of the bacilli are found inside cells, but the greater part also remain free in the fluid. From the subdural space the bacilli pass freely into the blood-stream and sometimes secondary localizations take place in the lungs and pleuræ, where inflammations are produced.

The experimental production of an influenzal meningitis was regarded merely as preliminary to the attempt to influence the course of the infection by means of the local application of a therapeutic agent. An efficient one for the experimental infection has been found in an immune serum prepared in the goat by the long continued, repeated injection of virulent cultures of *Bacillus influenzæ*. Dr. Wollstein is reporting in detail on this phase of the subject in a forthcoming number of the *Journal of Experimental Medicine.*

It has been found possible to rescue monkeys regularly from the fatal effects of the subdural inoculation of cultures of the influenza bacillus through daily injection, by means of lumbar puncture, of the immune serum for three or four days. Serum injections produce an arrest of the multiplication of the bacilli and bring about a free phagocytosis, with which is connected the cessation of the emigration of leukocytes and a consequent clearing of the cerebrospinal fluid. The fluid, at first turbid or purulent, tends to return to clear in three or four days, while cultures which are at first abundant become negative in that period or a little later. The bacteriemia is also brought under control and the secondary localization of the bacilli in the organs prevented. Recovery is, therefore, complete.

In view of the severe conditions surrounding influenzal meningitis in human beings, it would seem desirable to apply the serum to the treatment of the spontaneous disease. If this should be done, then every effort should be directed to the making of the bacteriologic diagnosis at the earliest possible moment, and the employment of a serum that has been prepared with virulent influenza bacilli and that shows a high degree of opsonic value. The manner in which the serum should be employed in human beings is indicated by the manner in which the serum for epidemic meningitis has come to be applied successfully. The testing of the anti-influenzal serum will be confined, for the present, to a few places in which its effects can be carefully observed and controlled before it is offered for more general use.

Sixty-Sixth Street and Avenue A.

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* From the Laboratories of the Rockefeller Institute for Medical Research

THE ETHER RAUSCH

A SAFE AND CERTAIN METHOD OF PRODUCING BRIEF GENERAL COMPLETE ANESTHESIA WITH ETHER

WILLIAM T. COUGHLIN, M.D.
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ST. LOUIS

I know of no perfectly satisfactory anesthetic; and that surgeons in general are not quite satisfied with our means of making surgery painless is shown by the many anesthetics, both local and general, with their various methods of administration. Each method and every anesthetic has its enthusiastic advocates, but I suppose that all agree with me when I say that an ideal anesthetic has yet to come into common use.

When in general practice I often felt the need of a safe method for producing brief general complete anesthesia for certain minor surgical operations. I shall, therefore, give, for the benefit of the general practitioner, a simple description of the technic of administration of, and my experience with, the ether *Rausch*. It may be that the method here described and advocated is one already used in certain clinics in our country, but I have talked with many, from all or nearly all of our principal cities, and I have met only one—Dr. Kelly of Cleveland—who had seen it used in the United States. Dr. Kelly informed me that the method had been in use in this country twenty-five years ago. Why has it fallen into disuse?

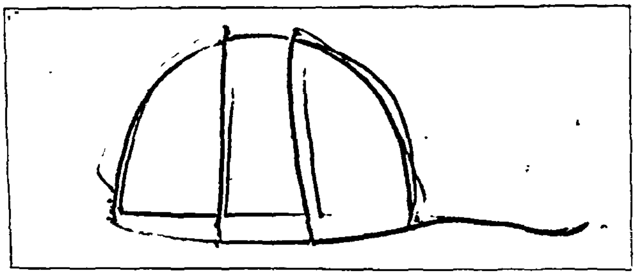

Fig. 1.—Wire frame of mask large enough to fit the face

It is true that in some text-books on surgery attention is briefly called to the fact that a stage of primary anesthesia occurs early during the administration of chloroform and ether. Da Costa says (quoting Packard) that such is the case but that the primary anesthesia so induced lasts only half a minute. The anesthesia induced by the ether *Rausch* is profound, general and complete and it lasts at least three minutes and usually more than five. There is no nausea, vomiting or other unpleasant effect. As the patient begins to recover the mask may be reapplied and the anesthesia renewed, although this is rarely necessary.

Being in Dresden, I visited the clinic of Lindner one morning, and the subject of anesthetics came under discussion. I was an enthusiast for local and regional anesthesia, for I had watched with great interest the methods of Professor Reclus in Paris. I never saw anyone who knew so much about anesthesia in general and local anesthesia in particular as Professor Reclus.

I was asked by Professor Lindner whether I had ever used the *Aether Rausch*. I confessed that I had never even heard of it. He asked the assistant if there happened to be a case that morning on which it might be used and the latter replied that there was a large cervical abscess. Lindner therefore proceeded to illustrate his method—a method which he had then used, he believed, more than 5,000 times. The patient was placed on the table as for an ordinary anesthetic. All instruments, drains and dressings, etc., likely to be used were ready and close at hand. All those present were requested to be silent. The anesthetist took the mask —a large wire affair, such a one as that shown in the illustrations—and showed it to the patient, told the latter what was to be done, and admonished him to have no anxiety or alarm, explaining that the only unpleasant feature was the smell of the ether. The patient was asked to raise his arm and to keep it raised as long as he could. Meanwhile the pad at the bottom of the mask was saturated with ether, the mask was placed in position and the patient was told to breathe deeply. At about the twelfth inhalation, the arm wavered and began to fall; the mask was removed and at once the operation was begun and quickly finished. In a very short space of time three drains had been inserted and fixed in position. I was spell-bound. The mask had been removed at the first incision and the patient, though somewhat cyanosed, remained quiet. The cyanosis speedily disappeared; the patient opened his eyes, looked foolish, laughed, and asked where he was. Twenty minutes or so afterward we saw him as we passed through the ward; he was eating his dinner and seemed none the worse for his operation. He assured me that he had felt no pain whatever.

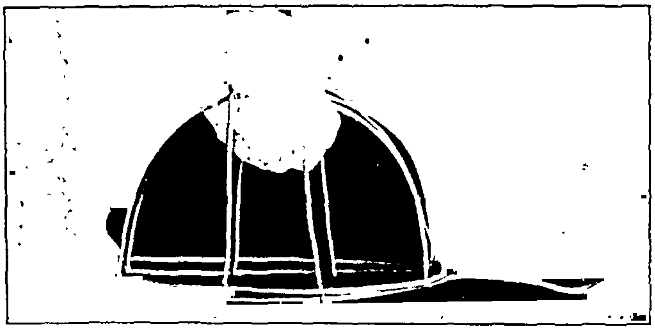

Fig. 2.—The same, with pad of gauze in position.

The method of Lindner is that until recently used by me at the Washington University Hospital and now used by me at the College Clinic, St. Louis University Medical School.

Every surgeon engaged in clinical or consultant practice sees almost daily cases in which the timely and thorough performance of some minor surgical operation would in all probability have effected a speedy cure. He sees many in which attempt at operation has been made, but without the success which the patient and perhaps the doctor expected.

I believe that in nearly all these cases the physician first in attendance knows what he wants to do. He realizes, for example, that a free early incision with efficient drainage is urgently indicated in a palmar phlegmon, but he does not like to subject his patient to the risk of a general anesthetic or one which necessitates the expense of an assistant, and his patient is not willing to have any extra expense. He uses a local anesthetic, perhaps novocain, cocain or ethyl chlorid. Now you who have used these know that when tissues are acutely inflamed one is likely to cause a good deal of pain when applying the local anesthetic; and, furthermore, after having applied the local anesthetic one is usually far from having secured a complete anesthesia. The surgeon uses a local anesthetic and inflicts pain when operating. The patient struggles or cries or orders him to desist. At any rate, the surgeon ceases before the operation is as well done as he could wish—before it is properly done. The case drags on with him. The process is perhaps repeated several times. The patient at last seeks relief elsewhere and the reputation of the first in attendance suffers in consequence.

It is in these cases that I advocate the use of the ether *Rausch*. I have used it now in more than two hundred cases, in the clinic, in the office and in the home. I have used it in cases in which I have had plenty of assistants and also in a few cases in which I have had to act both as anesthetist and as operator. I have never failed to secure complete anesthesia, except in cases in which the patient refused to proceed beyond the first two or three inhalations.

The *Rausch* may be given in a variety of ways; no special appliance is necessary. The principle to remember is this: that the ether is to be administered with very little air; the air must be excluded as much as possible. I have used it in the home by means of a couple of wet towels rolled in the form of a hollow cylinder or cone with an ether-saturated towel or cotton-wool over the upper end. Often I have used an ordinary derby hat. This is made to fit the patient's face closely by means of wet towels placed around the edge, and wet towels are placed around the sides and over a portion of the top; the wet towels exclude the air better.

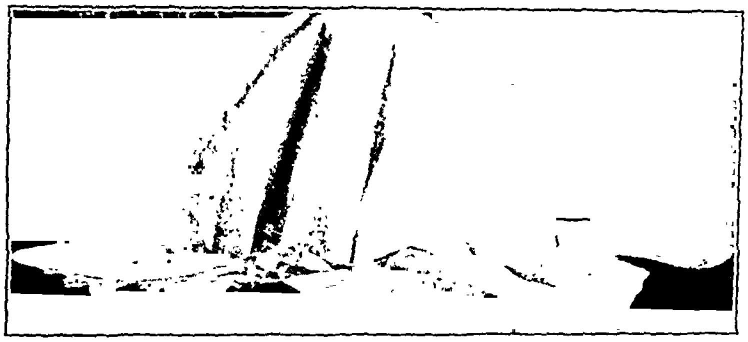

Fig. 3.—The same, now covered with oiled silk.

I have tried the ordinary open mask in many cases. My objection to it is that I have never found it satisfactory. That it takes more time may seem a trifling objection; but the patient often becomes much frightened and refuses to proceed. The parents or relatives fear that the patient is to be completely anesthetized and become alarmed. The patient often becomes sick at his stomach, something I have never seen happen either during or after the *Rausch*. Furthermore, with the open mask it is difficult to tell just when primary anesthesia has been induced because the arm sign fails, the arm falling through fatigue.

I have been using the *Rausch* now for over two years: I have used it more than two hundred times. I recommend its use in all minor surgical operations which can be better done if the patient feels no pain. I have used it in opening abscesses, setting fractures, reducing dislocations, removing ingrown toe-nails, etc., etc.

I would not use it in the presence of chronic bronchitis, emphysema, marked arteriosclerosis or generally in disease of the pulmonary or cardiovascular system. Nor would I use it in any case in which the operation required more than five minutes' time to perform, or in those in which general relaxation is necessary. Neither would I use it in those pale, flabby children in whom one fears to encounter the "status lymphaticus."

Metropolitan Building.

A NEW SPLINT FOR TRACTION AND COUNTER-TRACTION IN FRACTURES OF THE HUMERUS*

AUGUSTIN A. CRANE, M.D.
Attending Surgeon, Waterbury and St. Mary's Hospitals
WATERBURY, CONN.

Traction and counter-traction in the treatment of the femur as devised by Buck fifty years ago was so simple, effective and satisfactory, that no substantial improvement thereon has been made, or is needed.

Traction and counter-traction in the treatment of fractures of the humerus, while not so universally necessary, is often desirable, and sometimes essential. Its need is expressed by Scudder, Eisendrath, and other American writers, without offering practical means for meeting it. Bardenheuer, of Cologne, has exploited and developed the application of traction and counter-traction to every part of the body, giving most elaborate details for its execution. His apparatus for the arm, however, is very complicated and unwieldy. Modifications of it have been offered by various German surgeons, the most ingenious and available being that of Hoffmann, who adapts the Mitteldorpf triangle into a rhombus. The only ingenious and practical device I have seen described in this country, is by Osgood and Penhallow.[1]

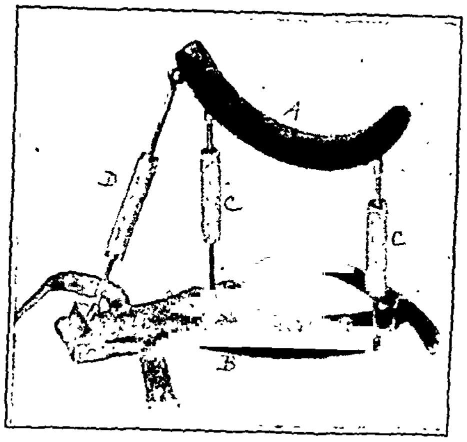

Fig. 1.—Traction splint for humerus. *A*, axillary crutch; *B*, forearm board; *C*, parallel rods through which traction is secured; *D*, guy-rod for maintaining forearm at right angle.

They submit a tin gutter-splint, moulded to fit the arm, forearm and thorax. It would seem to be ideal, except for not permitting of elevation, graded traction, or reversal for the opposite arm.

The distinctive features of the device which I submit are an axillary crutch, *A*, for counter-traction, and a forearm board, *B*, for traction; the two being forced apart by parallel rods, *C*, extended by turnbuckles; the forearm being held meanwhile in right-angled flexion by a guy-rod, *D*, reaching to the axilla. After applying, the traction is employed and can be carried to any necessary extent. Under this powerful traction, there is opportunity for adjustment and manipulation of the fragments, and *x*-ray examination. There is ample space for coaptation splints, for applying pressure by compresses at required points, and for frequent dressings of blisters or wounds. After full reduction and adjustment, the extreme tension can be somewhat relaxed, if the fracture is not spiral or oblique. In ordinary cases the appliance should be held to the body by a swathe; but in cases in which it is necessary to maintain elevation and abduction of the humerus. the entire apparatus can easily be held up in the air. by a rod passing from the elbow to a belt at the waist: though a shoulder-girdle would be required to keep the axillary crutch from slipping down.

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* Read at the semi-annual meeting of the New Haven County Medical Society, April 27, 1911.

[1] The Journal A. M. A., July 31, 1909, p. 375.

By unscrewing one turnbuckle. *D*. the whole affair turns inside out. and when the turnbuckle is replaced. we have a complete apparatus for the opposite side.

The size of the crutch is such as to minimize axillary pressure. Pressure on the radial surface of the forearm must be guarded against by thorough padding. which can be supplemented by a pneumatic pessary. Traction is exerted only by the two posterior turnbuckles—the front one being used simply to maintain right-angled flexion of the elbow.

This device may bear very slight resemblance to the one which will finally be generally adopted by the profession. but I hope it may be a link in the chain of evolution which is destined eventually to make traction and counter-traction of the humerus as efficient, positive and available. as it now is in the thigh.

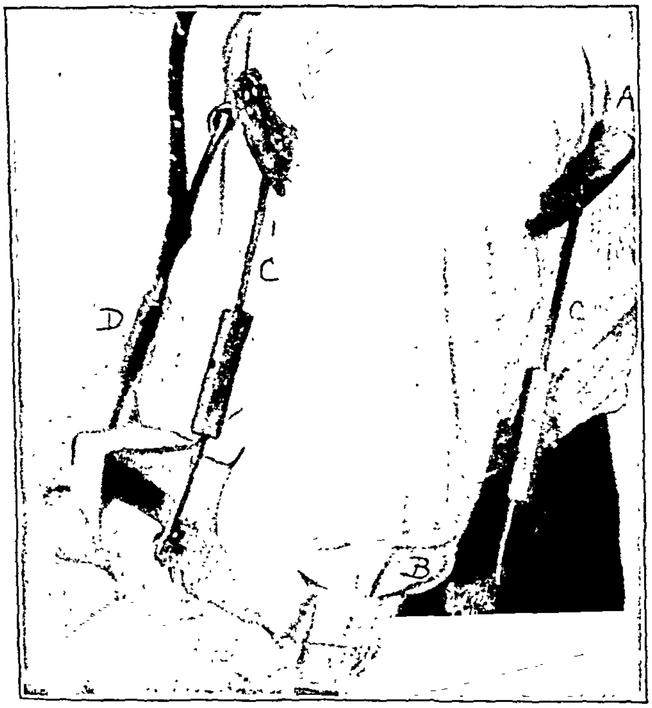


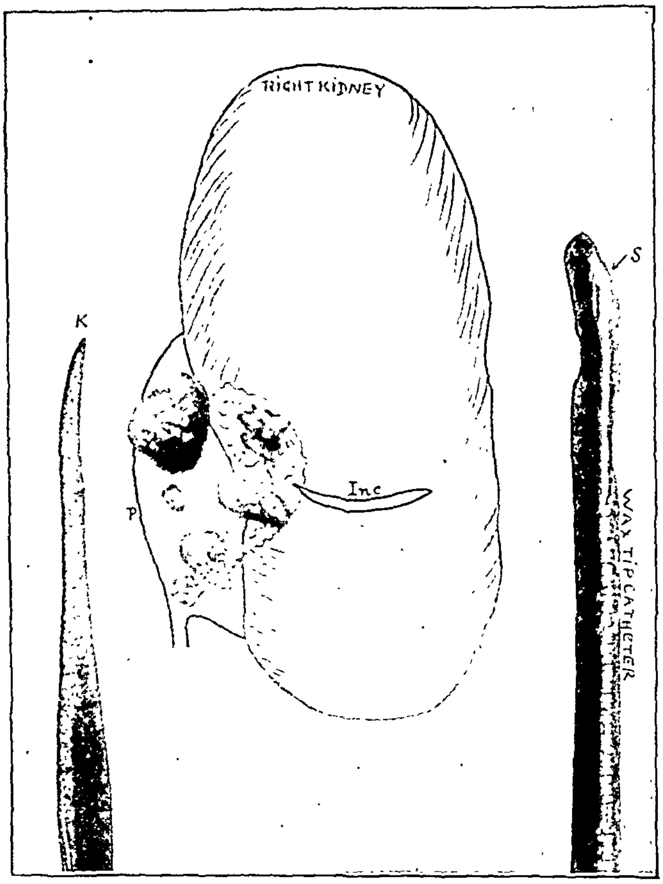
Fig. 2.—Traction splint applied to humerus.

A NEW AND SIMPLE METHOD OF REMOVING A RENAL CALCULUS

HOWARD A. KELLY. M.D.
BALTIMORE

In dealing with renal calculi in instances in which the previous examination has shown that the kidney is good enough to be saved, we need to have a variety of methods at our disposal in order to treat all patients satisfactorily and successfully. No one method will do, but we must vary our procedure according as the kidney is fixed or movable and according as we have a solitary stone to deal with. free in the pelvis of the kidney, or as the stone is branched and projects into the calices. Again, if the patient is very stout, and we have a long twelfth rib, we may be compelled to modify our technic.

A nephrolithotomy carefully done is a very safe procedure; if it is clumsily done, it may easily cost the life of the patient. On account of the risks from hemorrhage, *there is a strong tendency to turn to pyelotomy*, a good. neat operation when the stone is in the pelvis and the kidney is movable enough to be drawn well up into the wound. and when there is not too much surrounding inflammation. If we follow up the avascular zone on the posterior surface of the kidney near its lower pole, then we can make a pyelonephrotomy with advantage in the removal of *larger stones, especially those fastened* in the lower calices (Albarran-Broedel).



The right kidney is shown in outline with its pelvis to the left containing the stones, of which there are five. The little mass below the ureteral orifice is the calculous debris. The wax-tipped catheter is shown on the right, and *S* points to the scratch-marks by means of which the diagnosis of stone was made. This is from an untouched photographic enlargement (about three times). The blunt knife, *K*, is shown on the left, reduced to about three-fifths of its actual size. With this the incision (Inc.) was made in the dorsum of the kidney inclining to the left side, opening the pelvis. Through the blunt opening made in this way into the kidney, distended with a solution of silver nitrate, the stones were grasped and extracted and the upper urinary tract thoroughly washed out.

I have devised and used at intervals a transrenal plan of nephrolithotomy which, except in the simplest cases, *with an easy exposure*, is, I think, quicker and safer and better than pyelotomy or any other transrenal operation, and I am now inclined to accord to it a wide field of utility. It is as follows:

TECHNIC

A renal catheter 1.75 mm. in diameter, large enough to obturate the ureteral orifice and prevent a *reflux of fluid into* the bladder, is inserted through an open-air cystoscope and introduced well up to the kidney just before giving the anesthesia.

The patient is then put to sleep, preferably with gas prone, on an Edebohls cushion. An incision is m loin and the superior lumbar triangle is pulled open and the kidney exposed and freed on all sides from its fatty capsule.

The stone is then felt and the kidney gently loosened as far as possible on all sides and brought towards the wound. Then an assistant forces fluid (1/1,200 silver nitrate) into the renal pelvis, until it puffs out tense. As a rule, with a careful preliminary study, the exact capacity of the renal pelvis is already known. Then when the pelvis and kidney are swollen up tense the surgeon first incises the capsule and then plunges a blunt-pointed and blunt-edged knife (see illustration) through the cortex on the posterior surface, easily entering the renal pelvis at once and enlarging the incision, in a transverse direction if the stones are small. There is a gush of fluid which stops as he introduces his finger and feels for and finds the stone, which he at once grasps with a small stone forceps and removes.

The calices and the mouth of the ureter are now examined for more stones and the kidney is palpated on all sides with both hands, one finger being inside the renal pelvis. After all stones are removed, the wound is plugged or held closed, while the pelvis and the calices are again distended with the silver solution, when the finger is suddenly withdrawn, letting the fluid escape with a rush, bringing any small calculous *débris* with it. This may be repeated several times.

The stones in the illustration were removed in this way. In the lower part of the outline of the pelvis is seen some sand which was washed out in the manner described. Often such a wound bleeds but little and needs no suturing at all, as in this case. If the kidney is badly infected, the ureteral catheter may be left in the ureter for from several days to a week or more for constant or intermittent irrigation with a mild antiseptic fluid.

I wish to emphasize the following points regarding the operation:

1. It involves a minimal amount of damage to the kidney.
2. It is done through the part of the organ most easily accessible.
3. The distention is invaluable in offering a bag of fluid, overlaid with a zone of soft tissue, which is easily punctured.
4. An exploration is easily conducted through the opening, revealing the presence or absence of other calculi.
5. If it is desirable to keep it open a while for drainage the transverse incision is a good one for this purpose, as it can be left open and will close rapidly when the irrigations are omitted.
6. In the last case in which operation was done, no sutures were put into the kidney, and yet there was no escape of urine after twenty-four hours and practically no bleeding through the incision.

1418 Eutaw Place.

The Origin of New Cults.—Most men are subject to irregularities in their supply of energy. Sickness, disaster, bad food, and many other conditions produce this result. In consequence, most men at intervals pass from one extreme to the other. Downward curves bring doubt, fear and depression; upward curves create men anew and give the higher powers an unwonted supply of energy. It is during the dominance of the upward movement that suggestion is potent and new beliefs are readily formed. The many plans of recent origin for the suppression of pain and the inculcation of invigorating beliefs have their bases in this thought, even if the mode of expressing it is so immaterial that the physical background of the mind is ignored. To keep the thought of pain out of the mind when depression tends to make it vivid, and to utilize the early epochs of recovery for presenting suggestive ideas, are two rules that work wonders in rebuilding the higher life among those temporarily depressed. (From Patten's "The Social Basis of Religion," New York, 1911.)

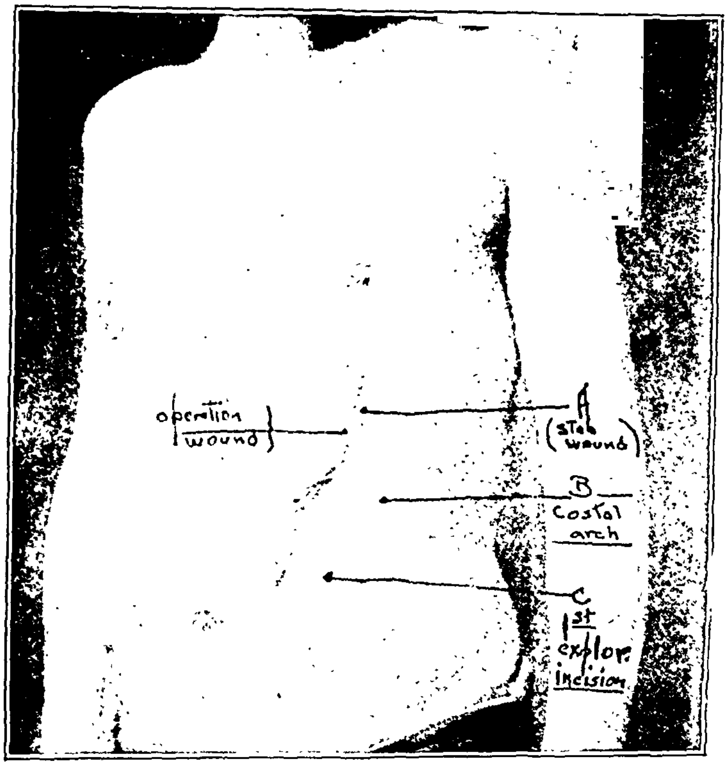
A CASE OF INCARCERATED AND OBSTRUCTED DIAPHRAGMATIC HERNIA WITH OPERATION AND RECOVERY

BENNETT V. CAFFEE, M.D.
TERRE HAUTE, IND.

While the literature on diaphragmatic hernia is fairly voluminous, there *seem* to be very few reported cases of operation with recovery; many of the cases were discovered post mortem; in others the patients died following operation. A synopsis follows of those discovered after a fairly extensive search.

Case 1.—A patient[1] of 23; diagnosis, obstruction of bowels. Operation through median incision above navel; colon found passing through rent in diaphragm; second incision along border of costal arch; colon being firmly attached, hernia could not be reduced; artificial anus made (colostomy). Recovery with subsequent closure of colostomy opening.

Case 2.—Male,[2] aged 18; signs of obstruction after violent exercise. Incision through rectus in upper abdomen; transverse colon, omentum and greater part of stomach protrude through rent in the diaphragm 3½ inches long; omentum adherent to pleura; thorax then opened by rib resection; hernia reduced; patient's condition too low to permit suturing of diaphragm; abdominal wound closed; rent in diaphragm held together by gauze packing through thoracic opening. Recovery complicated by empyema; no return of hernia apparent.



Location of the abdominal and thoracic operation wounds in the case of diaphragmatic hernia reported.

Case 3.—A boy,[3] aged 11, had been injured in the eleventh intercostal space, resulting in a hernia; two ribe were "osteotomized, not resected." The hernia was reduced and the rent repaired without opening the abdominal cavity. Recovery.

Case 4.—A man,[4] aged 23, stabbed in the left seventh intercostal space seven years before; taken with mild symptoms of intestinal obstruction, tenderness and rigidity over abdomen, especially over appendix. Operation six days after first symptoms; median incision; a knuckle of colon protruded through very small rent in diaphragm at site of old scar; too firmly adherent to detach; lateral anastomosis. Recovery.

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[1] Leuw, C.: Cor.-Bl. f. Schweiz. Aertze, 100, xxxi, p. 231.

[2] Dannis, W. A.: St. Paul Med. Jour., 1905, vii, 736.

[3] Postempski, P.: Bull. d. r. Accad. med. di Roma, 1888-9, xv, 191.

[4] Bamberger, A.: The Journal A. M. A., Dec. 31, 1910, p. 2296.

Case 5.—The case which I report was in a glass blower, aged 25. He had received a stab in the left mammary line, cutting through the costal cartilages of the seventh and eighth ribs. The omentum protruded between the cut ends, plugging the opening. The abdominal cavity was opened and the contents examined, but no perforation was found. The omentum was resected and returned through the stab-wound; the opening in the diaphragm could not be closed. Healing was by primary intention. Four months later, after the patient had been blowing glass one month, he stepped off from a porch; he felt a sudden pain in the region of the stab-wound. Symptoms of intestinal obstruction immediately ensued—severe pain, vomiting, etc. He was taken to the Union Hospital twelve hours after onset of symptoms and an incision made below the left costal arch. The splenic flexure of the colon was found closely adherent to the diaphragm, in which a very small opening sufficient to admit the index-finger could be felt; the costal arch was then cut through almost to the site of the old stab wound. After retracting the ribs the colon was released, only a knuckle of it having passed through. The opening in the diaphragm was then securely sutured by two chromic sutures passed through the sixth intercostal space on the index-finger as a guide. The wound was closed and healed promptly. The photograph from which the accompanying illustration was made was taken six weeks after the operation. The patient has been working since, though not at his trade, with no return of his symptoms.

An interesting feature is that the patient correctly diagnosed the hernia before I was called, as he had been warned of the danger of it.

A PLATE-CHANGING DEVICE FOR STEREOSCOPIC RADIOGRAPHS OF THE CHEST

SIDNEY LANGE, M.D.
CINCINNATI

Stereoscopic *x*-ray work demands the taking of two radiographs from different angles and the subsequent superimposing of the plates by viewing them through prisms or in a Wheatstone stereoscope. After exposure the first plate must be removed and a second one must be substituted.

With the improvement of *x*-ray apparatus it has become possible to make two radiographs of the chest in the space of a few seconds; that is, while the patient suspends respiration, and thus to obtain true stereoscopic pictures of the chest. But the problem of quickly removing one photographic plate and substituting a second has been a serious hindrance in this work.

The following simple method has been devised to change the plates: A sheet of lead, ⅛ inch thick, is provided on both sides with small clamps sufficient to hold a photographic plate against each aspect. This sheet of lead is then suspended at two points in a metal frame so that it can revolve around a horizontal axis (Fig. 1). A spiral spring (shown faintly in Fig. 1) made of stiff wire is attached to one end of this axis and when wound, by revolving the lead sheet, tends to unwind and revolve the lead in the opposite direction. The frame is hinged to some sort of chair or other upright support in which the patient sits or stands (Fig. 2). A thin sheet of aluminum is placed between the plate-changing device and the patient's chest, against which the patient leans.

The apparatus is operated as follows: Two photographic plates in their light-proof envelopes are inserted one on each side of the sheet of lead. The spring is wound by revolving the lead sheet one-half revolution. The patient is instructed to take a deep breath and hold it and the first exposure is made on one plate, the second plate on the opposite side being protected from the *x*-ray by the intervening sheet of lead.

By means of a string attached to the lower margin of the frame, the operator (in his protected booth) pulls the frame outward and thus allows the spring to revolve the sheet of lead, and with it the photographic plates, one-half of a revolution. On dropping the frame back into position the second plate will have exchanged places with the first and the second exposure is made. Of course provision must be made for shifting the *x*-ray tube at the same time.

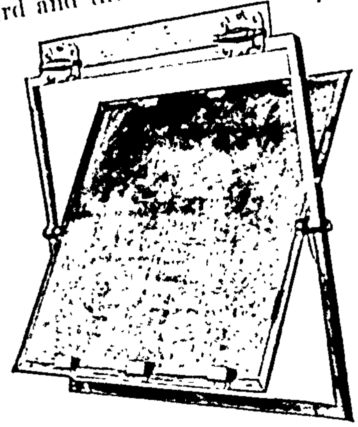
Fig. 1.—Radiographic plate-holder devised for rapid changing of plates.

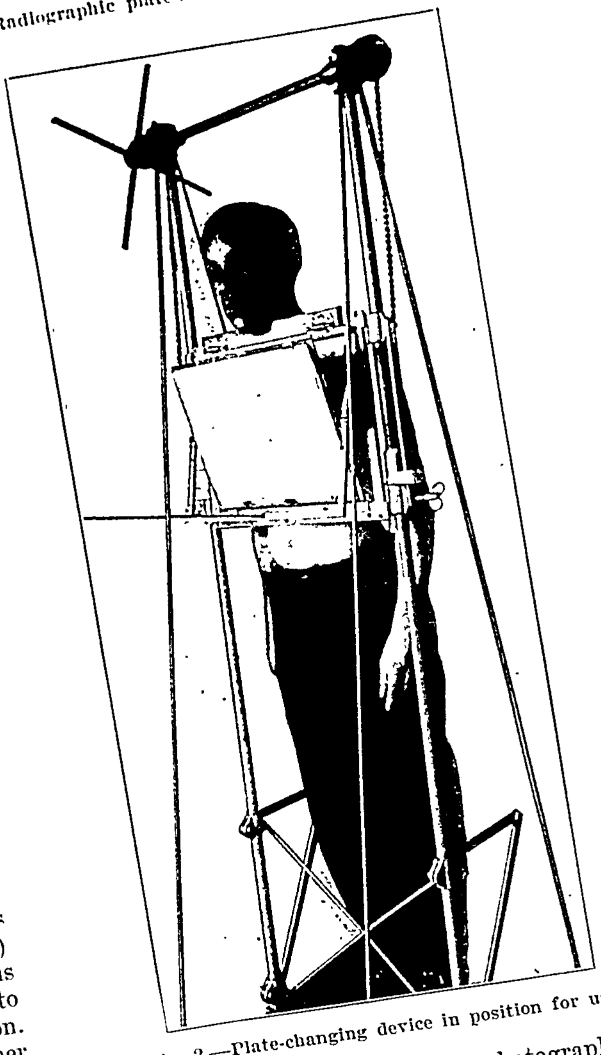
Fig. 2.—Plate-changing device in position for use.

In order to limit the vibration of the sheet of lead after the change is made and to cause it to come to rest quickly, a small spring snap has been placed on the lower margin of the frame, but is not shown on the accompanying illustrations. This is very important, otherwise several seconds may be lost while waiting for the apparatus to settle down before making the second exposure.

The apparatus as here shown can be used only in the upright position.

22 West Seventh Street.

A VEST-POCKET CASE FOR CARRYING EVERYTHING NECESSARY FOR MAKING A BLOOD-COUNT

M. BOYD KATZENSTEIN, B.Sc., M.D., M.Sc.
PITTSBURG

When making routine blood examination on patients, it is necessary to have blood pipettes at hand at all times. On account of the inconvenience of carrying them, solutions and pipettes are usually not at hand when wanted.

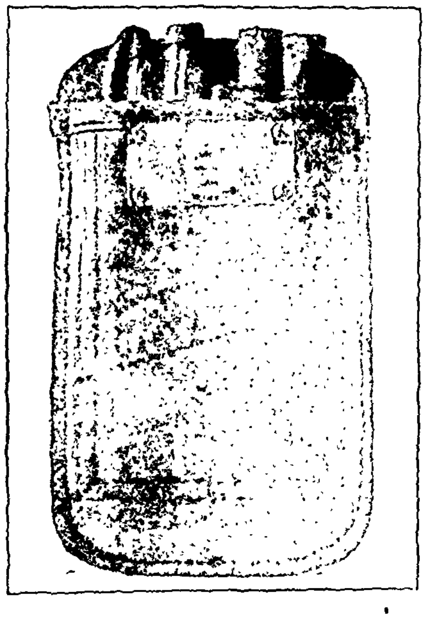

Fig 1.—The pocket blood-counting case complete.

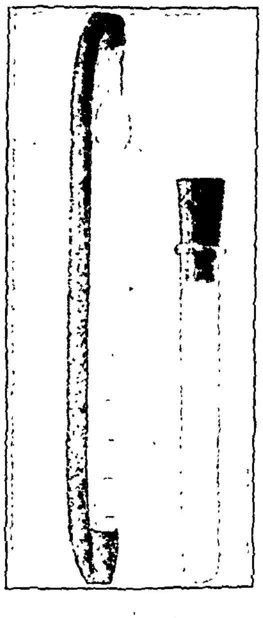

Fig. 2.—Sealed pipette and small test-tube for solution.

I have devised a little case, which can be slipped into the vest pocket and be ready at any time to make a blood-count.

It is a small leather pencil-holder and contains white and red blood pipettes; a small trocar, such as is found in a surgical pocket set, to be used for pricking the finger; two small rubber tubes, without the bone mouthpiece and two very small test-tubes for the diluting fluids (Fig. 1). All these parts are very easily secured and assembled, at a very small expense, the only item of expense being the blood pipettes. The two small tubes, while in the case, are either empty or may be filled with solution. If empty the diluting fluids can easily be made at the bedside by putting two or three drops of vinegar in the little tube and filling it with water. This makes a satisfactory diluting fluid for leukocytes. Into the second tube should be put a very small pinch of salt and it should be filled with water. This makes a satisfactory solution for the red corpuscles. For hemoglobin the test color sheet and a few pieces of filter-paper may be torn out of the Tallquist book. This can easily be slipped into the little case.

For sealing the pipettes for transportation I have two methods. In one I use the tube by which the fluid is drawn into the pipettes; this tube is to have no bone mouthpiece and it will be found just as convenient without it. After the pipette is filled with solution and is thoroughly shaken, the tube is brought down and the free end passed over the pointed end of the pipette, as shown in Figure 2. One should always see that the pointed end of the pipette is dry before slipping on the little tube. The second method is as follows: For this two parts are necessary for a single tube, both easily attainable and made by the user. The first part is a simple small rubber stopper such as is used to seal the small vials that usually contain serums; these are just large enough to fit into and completely close the upper wide opening of the pipette. The second is a small rubber tube of small caliber, such as is used in drawing the blood and solution into the pipette. This piece of tubing should be 2 cm. long and have a caliber of 0.5 cm.; one end being plugged by the large end of the small rubber stopper, such as is mentioned above (Fig. 3).

In use, the blood pipette is filled in the usual manner, is well shaken to mix the solution and blood and a small rubber tube slipped over the pointed end of the pipette; this will force a small part of the fluid up into the upper expanded portion of the pipette (no fluid is lost); then the small stopper is inserted and the outfit is ready for transportation.

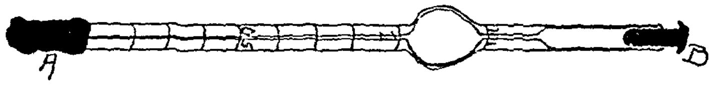

Fig. 3.—A second method of sealing the pipette for transportation.

When one is ready to make the count the tube is opened in just the opposite manner to closing. The little rubber stopper is first removed, then the closed rubber tube, and it will be found on removing the tubing that the fluid that was forced out of the bulbous portion of the pipette will be again drawn into it. The pipette is again well shaken and is then ready for a count to be made, the dilution remaining accurate.

The pipette can be carried in any position.

8110 Jenkens Arcade Building.

Treatment and Prevention of Measles.—In the treatment of both measles and scarlet fever, Robert Milne, M.D. (*Proc. Royal Soc. Med.*, April, 1911), claims to have carried out the following treatment with surprising results in the cure and in the prevention of the spread of these infections, even in institutions, without adopting methods of isolation or disinfection. He first used phenol in oil 1 to 10. For twenty-seven years, however, he claims to have used pure eucalyptus oil. During the first four days, commencing at the earliest possible moment, this oil is gently rubbed in, morning and evening, all over the body. The treatment is kept up until the tenth day of the disease. The tonsils and pharynx are swabbed with 1 to 10 phenol in oil every two hours for the first twenty-four hours, rarely longer. He claims for this treatment that when it is begun early, secondary infections never occur and complications are unknown. With the treatment carefully carried out, children may occupy the same room and even the same bed without risk of infection. No quarantine is necessary and other children in the family may be allowed to attend school. No after disinfection is necessary. Milne gives his experience in public institutions among large numbers of children in which this plan of treatment resulted successfully.

TREATMENT BY VACCINE THERAPY OF A CARBUNCLE IN A DIABETIC

C. L. McDONALD, M.D.
Bacteriologist to St. Alexis Hospital
CLEVELAND, OHIO

The brilliant results produced by the use of *Staphylococcus aureus* vaccine in the treatment of carbuncles is already too well known to require further discussion.

The following case, however, I am sure, is of sufficient interest to warrant reporting:

History.—Mr. R., aged 48, had been suffering with diabetes for three years, during which time he had lost 30 pounds and on several occasions had suffered from numbers of furuncles. In January of last year a large carbuncle appeared on the back of his neck. It was well opened and packed, but continued to discharge profusely for six weeks, with little or *no sign of healing.* At this time he was referred to me for vaccine treatment. A culture was taken and the causative organism found to be *Staphylococcus aureus.*

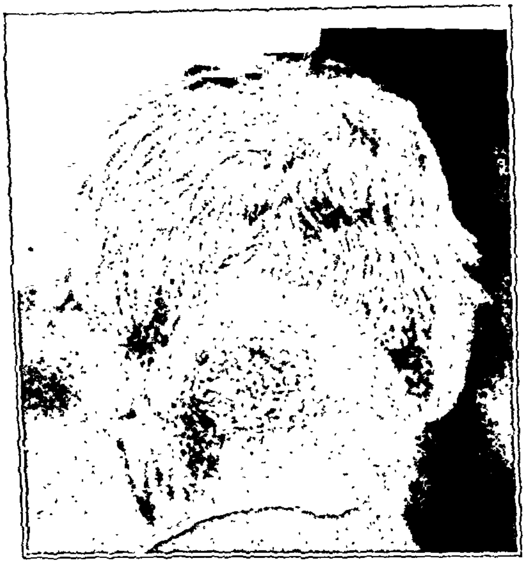

Fig. 1.—Carbuncle in a diabetic, treated with staphylococcus vaccines. Picture taken before inoculations were begun.

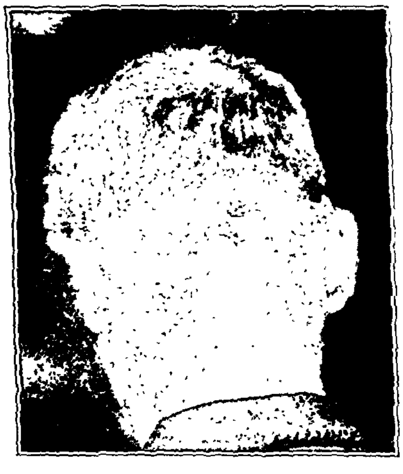

Fig. 2.—Picture taken after three inoculations with staphylococcus vaccines; appearance twenty-three days after first inoculation.

Treatment.—An autogenous vaccine was prepared and the patient inoculated with 100,000,000 dead staphylococci. For two days following the inoculation the discharge was somewhat increased and the patient complained of slight soreness at the site of inoculation. By the end of the first week the discharge had decreased about 75 per cent.; the soreness and induration about the carbuncle had greatly diminished. At this time a second inoculation of 200,000,000 dead staphylococci was given, followed by almost complete arrest of the discharge, induration and pain. A third inoculation of 200,000,000 staphylococci was given on the fourteenth day, with continued improvement, and on the twenty-third day his neck was entirely healed, as shown in Figure 2. The patient was now advised to present himself for an inoculation once every six weeks, with the hope of preventing a recurrence of both the carbuncle and furuncles. He followed this plan very faithfully and up to the time of making this report has been entirely free from either condition, although his diabetes has been taking its usual course.

254 Lennox Building.

SODIUM CACODYLATE IN SYPHILIS

J. H. LONG, M.D.
EAST MOLINE, ILL.

I have been using sodium cacodylate in three cases of secondary and one case of tertiary syphilis. Each dose contained 3 grains of the drug. The cases are as follows:

Case 1.—A. M., male, aged 31, married, had been under mercurials and tonics for eight months. The only lesions present were two small mucous patches on the side of the tongue. Mercury was discontinued. On April 26, April 30 and May 10 the patient received 3-grain doses of sodium cacodylate. May 12 the patient was attacked by very severe cephalalgia, requiring opiate by hypodermic method to relieve. Mercury by inunction soon controlled the trouble.

Case 2.—Mrs. A., aged 28, had just recovered from secondary skin lesion under mercury. On April 26 and April 30 she received hypodermic injections, each containing 3 grains of the drug, into pectoral muscle. May 15 brown patches appeared on the arms and chest. Proto-iodid by mouth caused them to disappear in a week.

Case 3.—F. A., male, aged 35, married, had secondary mucous patches on the lower lip, pharynx and tonsils. He received three injections, on April 26, April 30 and May 10. No effect on mucous patches, and skin lesions followed. Proto-iodid given by mouth, and solution of mercuric nitrate, applied to patches, made great improvement in a week.

Case 4.—A. D., male, aged 33, unmarried, had tertiary syphilids on the face, neck and chest, which had nearly disappeared under potassium iodid. This was discontinued and sodium cacodylate used hypodermically at six-day intervals, for three doses. In four weeks skin lesions reappeared. Potassium iodid was resumed, and the lesions were gone in two weeks.

It is evident that sodium cacodylate was useless in my cases and even harmful, inasmuch as the patients all suffered relapses under its use.

COMPARATIVE RESULTS OF DRY AND WET TEST-MEALS *

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NEW YORK

The results regarding the *secretory function* of the stomach obtained by the original Ewald-Boas test-breakfast are not so conclusive as it was originally assumed, mainly on account of the closely interrelated and overlapping effect of motility and secretion. The gastric contents obtained after an Ewald-Boas test-breakfast, are made up of ingested bread and water, mucus, saliva, and gastric juice. It has been impossible to determine the proportion of gastric juice in the stomach contents. Boas suggested that a dry test-breakfast, consisting of a roll without water, would be a more accurate index of gastric secretion. Such a test would also eliminate the error due to the possible stimulating effects of water. Dry test-meals, consisting of a roll, and wet test-meals, consisting of a roll and 400 c.c. of water were given to forty-seven patients on alternate mornings, for a series of days, with a view of comparing the quantity of gastric contents, the total acidity and the amount of free hydrochloric acid. In patients suspected of continuous gastric secretion or of retention, gastric lavage was done before and after the tests were given to determine that the stomach was empty.

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* Read before the American Gastro-Enterological Association, at its fourteenth annual meeting, held at Philadelphia, April 20, 1911.

4. In proportion of two to one, the acidities obtained after a dry test-meal are greater than those obtained after a wet test, the exact figures being as follows: In thirty-three cases the results after a dry test were greater tnan after a wet test, and in fourteen cases after a wet test-meal the results obtained were greater than those after a dry test.

5. In all cases of pyloric stenosis, the results obtained after a wet test-meal have been greater than those obtained after a dry test-breakfast.

6. In myasthenia gastrica in which there is delayed motility, the results regarding the acidity obtained after a dry test-meal have been usually greater than those obtained after a wet test-breakfast, because in the case of the wet test, water remains in the stomach to dilute the juice.

7. In cases of disordered motility, the dry test-meal is a more accurate index of the secretory function of the stomach than the wet.

TABLE SHOWING AVERAGE OF COMPARATIVE RESULTS OF DRY AND WET EWALD TEST-MEALS *

The following are cases in which the results from the dry test-meals were *greater than those obtained from the* wet test-meals:

Patient	Diagnosis	Volume		Free HCl		Total Acidity	
		Wet, c.c.	Dry, c.c.	Wet	Dry	Wet	Dry
9888	Hypersthenic gastritis	152^{5}	56^{2}	34^{6}	34^{2}	66^{5}	73^{2}
856	Hypersthenic gastritis	60^{1}	60^{1}	5^{1}	9^{1}	78^{1}	86^{1}
10801	Hypersthenic gastritis	40^{2}	60^{1}	29^{2}	28^{1}	57^{2}	76^{1}
9961	Hypersthenic gastritis	168^{8}	124^{7}	54^{8}	55^{7}	75^{8}	70^{7}
986	Hypersthenic gastritis	165^{1}	75^{1}	32^{1}	30^{1}	48^{1}	62^{1}
10800	Hypersthenic gastritis	112^{1}	67^{1}	28^{2}	32^{1}	60^{1}	70^{1}
10769	Asthenic gastritis	96^{4}	60^{6}	21^{5}	17^{5}	45^{8}	54^{6}
11048	Asthenic gastritis	60^{3}	77^{4}	0^{3}	0^{4}	22^{3}	27^{4}
15500	Asthenic gastritis	102^{7}	40^{4}	10^{7}	12^{4}	33^{7}	44^{4}
11011	Asthenic gastritis	77^{3}	87^{2}	0^{3}	0^{2}	21^{3}	22^{2}
457	Myasthenia gastrica	45^{2}	11^{2}	3^{2}	14^{2}	47^{2}	47^{2}
478	Myasthenia gastrica	90^{2}	67^{2}	6^{2}	28^{2}	38^{2}	73^{2}
15551	Myasthenia gastrica	142^{2}	112^{2}	33^{2}	62^{2}	68^{2}	111^{2}
978	Myasthenia gastrica	105^{1}	65^{1}	21^{1}	38^{1}	32^{1}	70^{1}
15505	Neuroses	540^{4}	52^{4}	22^{4}	28^{3}	52^{4}	63^{3}
15550	Neuroses	150^{1}	150^{1}	0^{1}	38^{1}	36^{1}	80^{1}
70	Neuroses	150^{2}	45^{1}	19^{2}	12^{1}	47^{2}	52^{1}
15498	Duodenal ulcer	172^{2}	90^{1}	93^{2}	92^{1}	115^{2}	124^{1}
658	Pyloric ulcer	160^{2}	360^{1}	39^{2}	56^{1}	64^{2}	94^{1}
15432	Lymphosarcoma	150^{1}	60^{1}	18^{1}	22^{1}	38^{1}	50^{1}
15530	Cirrhosis of liver	150^{1}	40^{1}	20^{1}	32^{1}	60^{1}	72^{1}
30	Adhesions pyloric	170^{1}	67^{1}	30^{1}	30^{1}	69^{1}	70^{1}
107	Carcinoma intest.	142^{2}	102^{3}	2^{2}	5^{3}	31^{2}	34^{3}
201	Cholecystitis	90^{6}	164^{4}	35^{6}	66^{4}	68^{6}	78^{4}
453	Cancer	60^{2}	60^{1}	5^{2}	9^{1}	30^{2}	44^{1}
741	Osteosarcoma	140^{2}	35^{1}	13^{2}	30^{1}	35^{2}	50^{1}
856	Gastrosuccorrhea	60^{1}	60^{1}	36^{1}	34^{1}	78^{1}	86^{1}
9962	Hyperchlorhydria	135^{3}	80^{1}	46^{3}	49^{1}	75^{3}	70^{1}
948	Hyperchlorhydria	115^{3}	20^{1}	41^{3}	30^{1}	53^{3}	68^{1}
1082	Hyperchlorhydria	20^{2}	155^{1}	46^{2}	42^{1}	34^{2}	76^{1}
1129	Hyperchlorhydria	105^{1}	105^{1}	44^{1}	14^{1}	78^{1}	48^{1}
981	Endocarditis	90^{2}	65^{1}	0^{2}	0^{1}	10^{2}	24^{1}
338	Pleurisy (dry)	180^{1}	60^{1}	12^{1}	14^{1}	46^{1}	60^{1}

CASES IN WHICH THE RESULTS FROM THE WET TEST-MEALS WERE GREATER THAN THOSE OBTAINED FROM THE DRY TEST-MEALS

Patient	Diagnosis	Volume		Free HCl		Total Acidity	
		Wet, c.c.	Dry, c.c.	Wet	Dry	Wet	Dry
10927	Stenosis of pylorus	423^{10}	307^{6}	67^{10}	55^{6}	88^{10}	87^{6}
1040	Stenosis of pylorus	200^{1}	90^{1}	34^{1}	32^{1}	60^{1}	58^{1}
160	Stenosis of pylorus	198^{8}	78^{4}	41^{8}	26^{4}	74^{8}	54^{4}
10788	Myasthenia gastrica	270^{2}	195^{1}	29^{2}	20^{1}	64^{2}	60^{1}
1068	Myasthenia gastrica	60^{1}	60^{1}	60^{1}	25^{1}	86^{1}	35^{1}
449	Myasthenia gastrica	52^{2}	32^{2}	36^{2}	29^{2}	78^{2}	56^{2}
11190	Asthenic gastritis	34^{4}	40^{2}	10^{4}	4^{2}	25^{4}	19^{2}
1	Neuroses	180^{3}	95^{3}	19^{3}	6^{3}	47^{3}	52^{3}
221	T. B. sinus, amyloid	100^{3}	45^{2}	6^{3}	2^{2}	42^{3}	32^{2}
58	Cancer stomach	225^{2}	15^{1}	0^{2}	0^{1}	25^{2}	18^{1}
802	Hyperchlorhydria	270^{1}	105^{2}	66^{1}	53^{2}	92^{1}	90^{2}
1042	Chronic appendicitis	60^{1}	15^{1}	42^{1}	34^{1}	72^{1}	54^{1}
1064	Gastroduodenitis	340^{1}	200^{1}	52^{1}	44^{1}	76^{1}	72^{1}
1066	Diabetes	135^{1}	20^{1}	36^{1}	16^{1}	78^{1}	48^{1}

* Cases from the medical department of Prof. Edward Quintard, New York Post-Graduate Hospital. The small figures above and to the right of the figures in columns indicate the number of tests with the given result in each test.

1. Comparatively slight differences in the volume expressed and in the acidities obtained were noted in the results between the dry and wet test-breakfasts, suggesting a correlation existing between motility and secretion—a tendency to automatic regulation of the gastric function. The variation between wet and dry tests is, however, greater than between wet and wet tests, and between dry and dry tests.

2. The dilution of the juice by water is greater than the stimulating effect of water on the peptic glands.

3. The volume obtained after a wet test-breakfast is practically always greater than after a dry test-breakfast. No definite relationship could be made out between the volume and the acidity.

8. In order further to assist in solving the relationship existing between motility and secretion, the fluoroscope in conjunction with bismuth will be of great assistance.

The part which fatigue plays in the rate with which the stomach empties itself has, with the assistance of the fluoroscope, already been taken up, but the material so far has not allowed of any conclusions. It is, however, a line of investigation which appears very promising, particularly in view of the new fundamental discoveries regarding tonicity presented by Dr. Cannon.[1]

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[1] Proc. Am. Gastro-Enter. Assn., 1911.

INJURY TO THE CHEST PRODUCING SIGNS OF ABDOMINAL INJURY

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History.—Mr. F. A., aged 30, was shot from below, by a person standing on the sidewalk, the bullet going through a window and striking him in the right lumbar region. The patient was brought to the hospital, and presented the appearance of considerable shock, with marked abdominal pain and rigidity. The abdominal findings were those of peritoneal injury with marked distention, tenderness and pain. The pulse was 100, temperature 99 F. The patient was prepared for operation and taken to the operating-room, but refused operation at that time, it being 2 o'clock in the morning. The following morning at 9 o'clock, the symptoms not having abated, the patient was again consulted and urged to submit to operation, to which he consented.

Operation.—The abdomen was opened in the middle line above the umbilicus, and the liver, gall-bladder, stomach, spleen and the intestines, were carefully gone over without finding any evidence of injury to them or any fluid or intestinal contents in the peritoneal cavity. A second incision was made below the umbilicus, and the abdominal contents examined through this incision, without finding any lesion. Examination of urine having been made without finding any blood or albumin, it was felt that the kidneys had escaped injury, and the abdomen was closed up, with drainage.

Subsequent Course.—The following day the patient developed a slight elevation of temperature and the temperature continued to increase on succeeding days, until he had a daily temperature of 101 F.

Physical examination of the chest revealed the pressure of fluid in the pleural cavity on the same side as the injury. The patient made a quick recovery from his laparotomy wounds. The findings in the chest cleared up after three weeks and the patient was discharged as cured.

The explanation of the clinical findings of injury to the peritoneal contents, I believe, lies in the fact that the diaphragmatic portion of the pleura was injured and infected, and the pain was transferred to the abdomen, as is so frequently observed in lower lobe pneumonia.

I believe that with the symptoms above enumerated, no surgeon would have been justified in leaving the abdomen unopened, and that we have no means at our command at the present time of discriminating between a wound of the pleura which produces abdominal symptoms, and a wound of the abdomen itself.

Sanitary Control of Public Milk-Supply.—"The importance of controlling the quality of the public milk-supply," says Prof. E. O. Jordan (*Science*, June 2, 1911), "although frequently urged by sanitarians, is not always appreciated. At the present time, in a great majority of American cities, it is safe to say that for every case of infectious disease due to drinking-water, ten cases are caused by infected milk. It is difficult to secure adequate funds for the sanitary control of the milk-supply. By sanitary control of milk is meant, not the upholding of a rigorous standard of butter-fat and total solids, but the maintenance of proper standards of cleanliness and health for dairy cows and especially the safeguarding the milk free from infection during collection and transportation. Under some conditions the protection of the consumer against milk-borne infection may be best brought about by compulsory pasteurization of that portion of the milk-supply which cannot otherwise be raised to proper standard. Whatever method of control may be adopted, it is certain that any genuine improvement in the character of a milk-supply will be followed in the long run by a lessening in the amount of typhoid fever and to some extent tuberculosis. The early detection of a single case of typhoid fever or scarlet fever on a dairy farm may be the means, not only of preventing an extensive epidemic, but of avoiding the formation of scores of new foci which can . . . light up subsequent cases for many years."

Therapeutics

CHOLERA INFANTUM; SUMMER DIARRHEA OF INFANTS

Probably both of the designations at the head of this article will soon be entirely banished from scientific nomenclature. At the present time, however, it is convenient to use them, even if they are not scientifically accurate, to indicate a class of diseases which are seen during the hot weeks of summer. It was formerly the custom to limit the use of the term "cholera infantum" to attacks of diarrhea with watery movements, accompanied by vomiting and great prostration, which came on suddenly, and often resulted in death. At the same time it was the custom with many physicians to apply the name to all cases of diarrhea with vomiting seen in young children, so that the accounts given by medical men of this trouble have been more or less inexact. Not properly included within this class are the very large number of cases of diarrhea in children which come on more or less gradually and which often are not so severe as the cases previously spoken of. In some of these cases, besides the diarrhea, vomiting is a prominent symptom. In other cases, vomiting is nearly or completely absent. The movements frequently contain blood, mucus, or pus, and are accompanied by pain and tenesmus. The former class of cases are commonly designated as acute gastro-enteritis, the latter as enterocolitis.

ETIOLOGY

Several factors are obviously concerned in the production of these diarrheal disorders. Formerly, the high temperature prevalent during the greater part of July and August was supposed to have an important influence in causing the disease. More recently, with the increasing attention paid to the study of bacteriology, and especially to the study of the so-called intestinal flora, a fermentation of the food, produced by the growth and development of the bacteria, is believed to be the most important element in the production of these diseases. Now, it is assumed by many that the deleterious influence of the high temperature of the summer is chiefly productive of disease by encouraging the fermentation and putrefaction of the different articles presented to the child as food, and particularly causing the growth and development of bacteria in milk, with the consequent fermentation and putrefaction and production of various sorts of toxins. The etiologic factor of disease, "cold or chilling," to which so much was formerly attributed in causing disease, has been almost forgotten. Few now stop to consider that possibly the chilling of the surface of the body, during cool nights, or by exposure to drafts, may so interfere with the normal processes of digestion as to produce a gastroenteritis.

PROPHYLAXIS

It is impossible to overestimate the importance of properly instructing parents and care-takers how to feed infants and young children so that they may avoid attacks of these disastrous diseases. It is not necessary to stop here to discuss the desirability of feeding infants at the mother's breast until they are at least 6 months old, and perhaps a year old. The occurrence of diarrheal diseases in breast-fed infants is infrequent, and the mortality is very slight. A common grave mistake in the feeding of children under 2 years old is to give them everything which the adults of the family eat, everything which they see and ask for, and in addition to this various candies and cakes which are presented to them, in addition to all the rest of the food which the family eats. It is not necessary to protest to medical men against this system of dietetics, but it is necessary to remind some of them that they should make it a point to protest to the parents against permitting the children such a miscellaneous variety of food. But even when intelligent mothers attempt to feed their children in a sanitary way, they find many pitfalls and obstacles in their path.

Perhaps the chief and the most important is the difficulty of securing suitable food. In the country, where every farmer has his own cows, and where every resident is not far distant from a farm, it is a matter of only a little trouble to get fresh milk immediately after the morning and evening milking. This is the ideal food-supply. Children who are so fortunately circumstanced that they can obtain food of this kind have little excuse for suffering from diarrhea in summer. If milk, as soon as it is taken from the cow, is subjected to a temperature of 40 or perhaps 45 F., the growth of bacteria is inhibited, and if the milk is kept continually at this temperature it may be preserved without becoming damaged much longer than when it is allowed to stand in the ordinary temperature of the air.

When milk is brought to small cities from farms in the immediate neighborhood, the dairyman frequently places the milk in quart bottles as soon as it is cooled, and keeps it cool until it is delivered to the consumers. This is the ideal method of handling milk, but only a small portion of milk is handled in this way.

It is necessary for the physician to impress on the mind of the parent the importance of using every effort to get a good supply of milk which is as fresh as possible, and which has been carefully handled. In the opinion of most physicians who have given the subject careful study, no other food is as desirable for a child under one year of age, who is deprived of its mother's milk, as fresh cow's milk.

The recognition of the difficulty of securing fresh milk, or milk which has been properly cooled and preserved, led, some years ago, to the introduction of sterilized milk as a food for infants. It did not take very long to demonstrate that this was not a satisfactory food for general and prolonged use in infant-feeding. Next it was proposed not to sterilize it by boiling, but to pasteurize it by subjecting the milk to a lower temperature than was necessary for complete sterilization. It is to be noted that this process, while it inhibits the development of bacteria, does not prevent the growth of spores and does not destroy the toxins which have been already produced in the milk. While it is very much the fashion at the present day among physicians and charitably inclined women to advocate pasteurization of the milk, there seem good reasons for believing that while perhaps pasteurization as a temporary expedient may not be an unmixed evil, still there are so many and such serious objections to its use that it should not be generally recommended. Not only does it fail to destroy the spores and toxins in the milk, but there are reasons for believing that it produces dissociation of the mineral and protein elements of the milk so that they do not fulfil the nutritive function in the body of the child as do the same ingredients of unchanged milk.

Equally important with the food-supply to the young child is the air with which he is surrounded and which he breathes. An attempt must be made to give as much fresh air as possible to the large number of poor children, who can neither be taken to the mountains nor to the seashore, but who must continue to spend the entire season in a tenement house in a crowded district. They should be taken out of the houses, into the parks, or, if they live in a seaport town, taken to the edge of the harbor or to the bank of the river. When they are at home, they should, if possible, be kept on the roof or piazza, and when this is impracticable, the windows should be opened so that the fresh air will circulate through the house. At the same time, the child, when out of doors, should be kept out of the sun, and when indoors should be protected from drafts.

TREATMENT

It is impossible to lay down any routine treatment to apply in all cases of infantile diarrhea. Success requires the exercise of the physician's best judgment and common sense. First, it may be mentioned that the child should be kept as much as possible in cool, fresh air, and should be kept quiet. Carrying the patient about or shaking him, as children are so often shaken and jumped, will increase the movements of the bowels. On the other hand, if he is kept absolutely quiet and comfortable, his bowels move less frequently. If he has considerable fever, he should be bathed with tepid or cool water, at intervals of three or four hours. Although he must be in a cool room, he should be protected from direct drafts through windows or doors.

Under the present belief of the very great importance of the part played by bacteria in producing these diarrheal disorders, most teachers of the present day advise initiating the treatment by the administration of a cathartic or laxative, with the idea of clearing out from the intestinal tract the fermenting food and the bacteria which are causing fermentation. Probably castor oil is the most useful drug which can be given for this purpose. To a child 6 months old half a teaspoonful may be given, to one a year old, a teaspoonful, and to one 2 years old, two teaspoonfuls. Nothing else should be taken into the stomach within two hours either before or after the oil is administered. If the first dose is vomited, a second should be given after one hour. If, on account of excessive vomiting, or for any other reason, it seems wise to give some other cathartic than castor oil, a teaspoonful of aromatic syrup of rhubarb may be given. This does not act so quickly as the castor oil, but like the latter, has the advantage of having its action followed by a constipating effect. Many prefer small doses of calomel to either castor oil or rhubarb. An eighth or one-tenth of a grain of calomel may be given at intervals of half an hour, until a grain has been taken.

The physician who is called to a little child who has had a number of copious watery movements in rapid succession, and who has vomited several times while the diarrhea has been going on, may decide that the stomach and bowels are sufficiently emptied, and may commence the treatment by giving sedatives without the preliminary cathartic. Drugs of this kind will be discussed later.

After a cathartic has been given and has acted, it is advised that all food should be withheld for at least twenty-four hours. A small amount of water may, however, be given at more or less frequent intervals. The patient usually suffers very much from thirst, and it is necessary to administer some fluid by the mouth to quiet his restlessness and fretfulness. If the vomiting continues after a cathartic has been administered, often a little hot water placed on the tongue will stop it. The water should be given in such quantities as experience in the case shows are suitable, beginning with a quarter or a half teaspoonful at intervals of fifteen minutes or half an hour. If this amount is tolerated, it may be gradually increased so that the patient will take from a teaspoonful to a tablespoonful at intervals of one or two hours.

At the end of twenty-four hours, if the stomach is settled and the patient is free from pain, and the character of the movements is improved, food in small amounts may be commenced. In most cases nothing is better than small quantities of milk properly diluted. This dilution will be made according to the experience of the individual doctor in infant-feeding. Barley-water has long been a favorite diluent for milk, and one may try a teaspoonful of the top of a bottle of milk diluted with six or eight parts of barley-water. A small amount of this may be given, depending on the success with which it is retained. If the child retains a small quantity, at subsequent feedings the quantity may be increased until he takes a sufficient amount to fill his stomach. This being retained, the strength of the milk may be increased until he takes it of the strength adapted to his age.

In most of these cases the digestive power of the child is more or less impaired, and this suggests the desirability of predigesting the milk before it is given to him.

A great variety of especially prepared foods have been suggested for young children, and have been advised as of special use in children suffering from indigestion and diarrhea; but the tendency of the present day is to consider these all inferior to fresh milk. The same may be said of various broths, gruels and meat-juices which have from time to time been recommended by various writers. One substitute for fresh milk should, however, be mentioned, and will perhaps sometimes be found useful in emergencies such as when, for any reason, fresh milk cannot be obtained, or when, owing to the great heat, the supply on hand becomes spoiled. This substitute is condensed milk. This came into great popularity in certain large cities because men who practiced among the poor experienced difficulty in obtaining fresh milk, and found that the children throve when given condensed milk. Even now when good milk cannot be obtained, or when it is found that the child does not digest the milk provided for him, condensed milk may occasionally be tried and will not infrequently be found to give satisfaction. Its use, however, should not be indefinitely continued, for children who are fed on it alone for long periods of time are likely to contract scurvy.

While the hygienic and dietetic management of these diarrheal diseases is of the very greatest importance, the medicinal treatment should not by any means be neglected. It has been mentioned that in some cases it may seem proper to commence the treatment of this disorder by sedative medicines, without a preliminary cathartic. The best and the most useful gastro-intestinal sedative which we have is the subcarbonate of bismuth. This may be given in doses of from 0.30 to 1 or even 2 gm. (5 to 15, or even 30 grains). It frequently checks the vomiting, and has a favorable influence over the intestinal movements. It is often of benefit to add a small dose of phenyl salicylate (salol), a bowel antiseptic, to each dose of bismuth.

Next in importance and value to bismuth stands opium. While many physicians condemn the use of opium in these disorders, probably every physician who has much practice among children is often compelled to use it to save his patient. The best preparation of opium for use with children is the tincture of deodorized opium. Of this one drop may be given to a child one year old, and this dose may be repeated every two, three or four hours, if the child is in pain, or if he is not asleep.

In some cases it is desirable to give some of the digestive ferments in order to promote the digestion of food. A palatable essence of pepsin will often be found useful.

If the vomited matter or the stools are sour, the bicarbonate of sodium may be given with a carminative. For instance:

℞	Gm. or c.c.		
Sodii bicarbonatis	2		ʒss
Spiritus menthæ piperitæ	2	or	fl.ʒss
Syrupi	25		fl.℥i
Aquæ	ad 100		ad fl.℥iv

M. et Sig.—Give 1 teaspoonful, every two hours, in a little hot water.

In cases which are severe from the beginning, if there is much pain, with frequent copious watery movements, a hypodermatic injection of 1/100 of a grain of sulphate of morphin with 1/1000 of a grain of sulphate of atropin may be administered. If this dose is found to be too small, a larger dose may be given. By stopping the pain, by quieting the intestinal movements and the general restlessness, and perhaps by producing sleep, this will often do the little patient a great deal of good.

After the disease has continued for several days, if the heart becomes weak, brandy may be administered in doses of from 10 to 20 drops for a child one year old.

During recent years the use of buttermilk in diarrheal affections has found many advocates. Investigation of the bacteria found in the intestine in health and in disease has shown that the bacteria which are present in health disappear and their places are taken by other bacteria during the presence of diarrhea. It has been found that these diarrheal bacteria have their action inhibited by certain strains of lactic acid bacteria. There are a great variety of these lactic acid bacteria, perhaps twenty-five or more, and not all strains of the lactic acid bacteria are equally efficient against the pathogenic bacteria. But practically certain efficient strains have been found and have been cultivated, and these should be used when the treatment by buttermilk is to be undertaken. It has been customary in a great many places to pasteurize the buttermilk before it is given to the child, but this, of course, entirely nullifies any action of the lactic acid bacteria, and either fresh buttermilk should be given unpasteurized, or, if the pasteurized product is used, it should be freshly inoculated with an efficient strain of the lactic acid bacteria; otherwise no beneficial action can be expected.

The administration of lactic acid bacteria is not equally effective in all sorts of diarrheal troubles, but it has been found that they are especially useful in that class of cases which are termed "fermental" diarrhea. Clinically these cases are characterized by diarrhea which, as a rule, comes on suddenly. The movements are loose and watery, usually green in color, and with a foul or sour odor. The mucus, blood and pus which are usually present in enterocolitis are usually absent in this condition. The temperature may be elevated for a day or two, but this does not persist. Vomiting is common, and abdominal pain is present, but tenesmus is not. In cases such as these, the administration of buttermilk containing lactic acid bacilli will often prove very beneficial.

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[*For other information see second page following reading matter*]

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RESTRICTION OF THE SALE OF HABIT-FORMING DRUGS

The Boylan bill to prohibit the sale of hypodermic syringes or needles at retail without an order from a physician or veterinary, which passed the New York legislature some time ago, has been signed by the governor and is now a law. This measure is an effort on the part of the State of New York to control the growing use of morphin and cocain. Commenting on this bill the *Outlook* said editorially: "It seems incredible that there should be objection on the part of any intelligent person to the passage of such a measure. . . . It is beyond doubt that the availability of the hypodermic syringe has been as much a factor in the wide-spread use of morphin, cocain, etc., as the availability of the drugs themselves and that the vast majority of hypodermic syringes and needles are used to give morphin and cocain in a harmful way. The objection is made that drug fiends could easily obtain syringes and needles through the mails from druggists in another state. This is perfectly true and is, of course, the weak point in all state legislation designed to control the use of habit-forming drugs and instruments for their injection. If New York State will lead the way in this reform, however, there is little doubt that other states will follow so good an example. At all events, the lower grade of drug and department stores of New York and elsewhere would be deprived of one of their activities. . . . If the laity is buying hypodermic outfits we may, we think, rest assured that it is for the harmful injection of morphin and cocain."

The statement made by the *Outlook,* that hypodermic syringes and harmful drugs can be sent through the mails from other states having no restrictive laws, can and should be met by appropriate federal legislation prohibiting interstate commerce in hypodermic syringes, needles and habit-forming drugs, except by responsible and properly authorized persons. The suppression of traffic in these drugs for vicious purposes will probably necessitate the adoption of some restrictions and regulations on the part of physicians. For instance, in the bill introduced two years ago in congress by Mr. Mann, intended for the suppression [illegible] commerce in morphin and cocain, it was provided that physicians ordering such drugs from pharmaceutical houses outside of their own state must be registered with the federal authorities and must keep a record of the amount of such drugs ordered and the manner of their disposal. As was to be expected, this proposition brought out indignant protests from pharmaceutical mail-order houses and others who asserted that it was an infringement on the rights of the dispensing physician. To this cry was added the usual stock argument that the proposed legislation was inspired by a drug syndicate for the purpose of preventing dispensing by physicians. As a matter of fact, Mr. Mann's bill was drafted in accordance with the recommendations of the International Opium Conference held at The Hague and composed of representatives of the various nations interested in the suppression of the opium traffic.

Custom-house records show that the importations of opium and cocain into this country vastly exceed the amount required by physicians for legitimate purposes. Beyond question, the surplus is used for the gratification of drug habitués and the creation of new victims. The repression of this horrible traffic can be accomplished only by rigid regulation of the legitimate trade, for which a careful record of all sales and purchases of such drugs is essential. If such regulation imposes some inconveniences on our profession, it must be accepted as a part of our duty to the state and to the public. We must recognize the fact that the right to use dangerous drugs for saving life as a corollary carries with it an obligation to prevent the improper or harmful use of such drugs and that it is quite as important a duty of physicians to see that no person secures morphin or cocain who does not need it as it is to see that patients who are in need of the beneficent effects of such a drug are given the benefit of it. We congratulate New York on having been the first to pass such a bill and hope that her example will be speedily followed by all other states.

MEDICAL HISTORY CLUBS

A favorite statement of continental European writers is to the effect that the average English and American physician is often lacking in a proper interest in the history of his subject, the reason usually assigned being the intensely practical nature of the English-speaking practitioner, which allows him neither the time nor the inclination to approach his specialty from the historical side. While much of the best historical work in the past has undoubtedly been done by French and German scholars, like Littré and Daremberg, Choulant or Pagel, yet such exhaustive recent monographs as those of Adams, Greenhill, Payne, Norman Moore, D'Arcy Power, Osler, Sir Clifford Allbutt, Finlayson, Billings or Weir Mitchell have gone far to lift this imputation of late years. For the practitioner who writes, the advantage of a proper study of "origins" is, of course, self-evident. Much superfluous controversy, much waste of the writer's (and reader's) time and of a journal's space, might be saved if physicians investigating a subject always knew exactly what others had done before them.

A proper interest in the historical side of medicine might easily be stimulated by means of short courses in medical history for students before graduation or by the formation of medical history clubs among practitioners themselves. As such clubs are usually made up of kindred spirits, the membership of any is not likely to be too large, which has the double advantage of giving every one a frequent chance to read papers and of avoiding unnecessary repetition in discussions. As an example of what can be accomplished in this field we may instance the remarkable work of the Historical Club of the Johns Hopkins Hospital, which was organized in November, 1890, beginning with exhibitions of rare medical classics by Drs. Billings, Osler, Kelly and others, and which has since turned out so many fine papers, published in the *Bulletin of the Johns Hopkins Hospital.*

Another prominent medical history club, the Charaka Club of New York City, organized in 1898, consists of eighteen members and has already published three handsome volumes of transactions, which have been reviewed in these columns. Among the subjects treated were "Greek Medical Fees," "The Evil Spoken of Physicians," "The Cult of Æsculapius," "Antonius Musa," "Fracastorius," "Shakespeare's Last Illness," "The King's Touch for Scrofula," "Dutch Physicians in New Amsterdam," "Garth's Dispensary" and "Flaubert's Epilepsy"; and the proceedings have been enlivened by original poems, little plays, novelettes and *facetiæ* by the different members.

The Medical History Club of Washington, D. C. was founded in 1908, and prints its transactions in the *Old Dominion Medical Journal.* During the present year interesting papers on Auenbrugger, Pasteur and Bichat and "Casserius and Anatomic Illustration" were read. Practitioners of the town and country will find relaxation from the cares of their busy lives in little coteries of this kind and their papers will lend variety and interest to the journals and transactions of their respective medical organizations.

THE PRESIDENT AND THE FOOD AND DRUGS ACT

We have, for the past three weeks, called attention to the failure of the federal Food and Drugs Act, under the interpretation recently given it by the Supreme Court, to protect the public against loss both in health and pocket from lying claims regarding the curative effects of nostrums. As soon as the new interpretation became public, some of the more progressive members of Congress began to plan for getting an amendment to the pure food law that would specifically prohibit untruthful claims for therapeutic effects of drugs. President Taft, on June 21, took official cognizance of the blow that the Supreme Court decision had dealt the Food and Drugs Act by sending a special message to Congress urging the very amendments that are needed to restore that law to its previous efficiency. Said the President:

> "An evil which menaces the general health of the people strikes at the life of the nation. In my opinion . . . the sale of drugs under knowingly false claims as to their effect in disease constitutes an evil and warrants me in calling the matter to the attention of the Congress.
>
> "Fraudulent misrepresentations of the curative value of nostrums not only operate to defraud purchasers, but are a distinct menace to the public health. There are none so credulous as sufferers from disease. The need is urgent for legislation which will prevent the raising of false hopes of speedy cures of serious ailments by misstatements of the fact as to worthless mixtures on which the sick will rely while their diseases progress unchecked."

To meet the objection that has been raised in some quarters that the curative effect of nostrums is a matter of opinion and not of fact and that the opinion will vary both as regards the so-called schools of medicine and also as to individuals of the same school, Mr. Taft says:

> "No physician of standing in his profession, no matter to what school of medicine he may belong, entertains the slightest idea that any of these preparations will work the wonders promised on the labels."

And further:

> "Of course, as pointed out by the Supreme Court, any attempt to legislate against mere expressions of opinion would be abortive; nevertheless, if knowingly false misstatements of fact as to the effect of the preparations be provided against, the greater part of the evil will be subject to control."

That the amendment suggested by the President will be fought by the "patent medicine" interests is to be expected. The Proprietary Association, as recently as June 17, sent out a letter purporting to give "the legal aspect of the Johnson case." The gist of the letter is contained in the following sentence that appears in it:

> "As there is no science in therapeutics, the practice of medicine being based on opinion and not on definite scientific facts—any statement concerning the curative properties of any drug, chemical or medicine, is largely a 'matter of opinion' . . ."

In the opinion of the Proprietary Association—in other words, in the opinion of "patent medicine" makers—"the effect of the decision of the Supreme Court does not change or weaken the Food and Drugs Act in any particular."

President Taft, as evidenced by his special message, disagrees with the "patent medicine" men, for in his message he says:

> "I fear that if no remedial legislation be granted at this session the good which has already been accomplished in regard to these nostrums will be undone, and the people of the country will be deprived of a powerful safeguard against dangerous fraud."

We believe that the restrictions the President would have placed on the nostrum business are more likely to meet with public approval than the "wide-open" policy advocated by the makers of "patent medicines." Amend the act!

Current Comment

THE MILWAUKEE WATER-SUPPLY

About a year ago[1] a report by our special commissioner appeared in The Journal dealing with the relation between typhoid fever in Milwaukee and the water-supply. In that report the opinion was expressed that the excessive prevalence of typhoid fever in Milwaukee was chiefly due to a contamination of the public drinking-water with sewage. The conclusions then expressed have been fully confirmed by the report of a commission of well-known sanitary engineers which has been just submitted to the Milwaukee Common Council. The work of the commission, which has extended over more than two years, has led to several important recommendations. Immediate filtration of the water-supply is advised, with disinfection when necessary, this recommendation being based on the observation that "the waters of the bay are polluted by the sewage of the city and at times the water supply is contaminated." In accordance with the best practice the report advises that sewage purification be undertaken only to the extent necessary to prevent undue contamination of the rivers and bay. Specific recommendations are made concerning the installation of flushing works, intercepting sewers and trickling filters. If expert advice of this sort is followed, water-borne typhoid fever in Milwaukee will quickly disappear.

DIPHTHERIA AND MILK IN MINNEAPOLIS

The recent epidemic of diphtheria among the students and faculty of the University of Minnesota, which originated in one of the dairies supplying milk to the section of Minneapolis in which many of these persons resided, emphasizes several points regarding the transmission of infectious diseases. The human carrier of these infections is being found constantly to bear a wider responsibility in this respect, and the problem of eradicating many infectious diseases resolves itself into one of making human bacillus-carriers as harmless as possible. This is true of yellow fever, of malaria, of sleeping-sickness, of typhoid and of diphtheria. As a secondary medium of contagion probably no single substance occupies a more important rôle than milk, and the difficulties of removing all possibility of infection through this source are brought out forcibly in this Minneapolis epidemic of diphtheria. In line with the strenuous campaign for clean milk, which is now well-nigh universal, Minneapolis has adopted stringent regulations regarding the production and handling of milk and the measures have been fairly well carried out. It was found, however, that the source of the infection in this epidemic was one of the cleanest and best regulated dairies in the Minneapolis district. Almost ideal conditions obtained in the dairy, and the personnel seemed to be unobjectionable. The epidemic was traced to this source notwithstanding and the application of scientific methods in taking cultures from the throats of every employee revealed the fact that one, a man who handled the milk, though appearing well himself, was a carrier of the diphtheria bacillus. Prompt measures, including the isolation of the carrier, the destruction of the milk which this man had handled, the sterilization of all the utensils, the examining and quarantining of every person exposed to the infection and the disinfection of houses and schoolrooms promptly checked the epidemic; not, however, until twenty-two cases of diphtheria had developed. This instance illustrates the tremendous difficulty of absolutely ruling out all sources of contamination of the milk-supply, but it also illustrates the correct scientific method of getting at the origin of infections and of handling them promptly.

MISREPRESENTATION A WEAPON OF THE REACTIONARIES

One of the most important bills passed during the recent legislative season was Senate Bill 451, passed by the Arkansas legislature, creating a state department of health. This bill was opposed from the time of its introduction by the representatives of the National League of Medical Freedom, and the usual misstatements and stock editorials appeared in all the newspapers in the state which the interests behind this organization could control. One of the newspapers of Fort Smith published a stereotyped editorial which, with a few alterations, has been made to do service in many other states, opposing the passage of this bill and the establishment of a department of health by the state. The editorial contained an extract from the much-quoted paper of Dr. Samuel G. Dixon[1] which appeared in The Journal several years ago, but, in addition to the extract from Dr. Dixon's article, the following appeared as a part of the quotation: "The faithful allies, the physicians of the commonwealth are, of course, only those physicians who belong to and are in good standing in the state and county associations." As soon as this editorial appeared, one of the local members of the Association called the attention of the editor to the fact that this sentence did not appear in the paper as published in The Journal or in the printed record of the meeting, and that it has been interpolated without authority. Accordingly, in a subsequent issue the editor acknowledged the inaccuracy of the quotation and withdrew the interpolated sentence. The editorial in question is a fair sample of the methods followed by the organized interests which are opposing the forward movement in public health legislation. It would be well to scrutinize carefully the publications, pamphlets, and especially the "canned editorials" which are appearing in such quantities in the newspapers, in order to prevent further misrepresentation and distortion of facts.

SUICIDE REPORTS IN THE PRESS

The American Academy of Medicine, in cooperation with the American Medical Association, took action last year condemning the publication of details of suicides in the public press, and the former organization appointed a committee for the purpose of investigation along these lines. In an advance report[2] of the committee, now at hand, this attitude of the press is characterized as criminal. The evidence that the suggestive effect of reading details of suicides is a partial cause of this crime among susceptible persons unfortunately cannot be reduced to a mathematical demonstration. Statistics can show only by presumption the importance of this influence, which, however, is pronounced to be obvious by those who have had to deal with such persons. The committee believes that legislative steps to prevent publication of this class of news must be preceded by popular education. For this purpose the following suggestions are offered: 1. The coroners in large cities should keep data showing (a) dates of prominent publication of details and methods of suicides, (b) dates of subsequent suicides, grouping the cases by methods, (c) direct evidence obtained by investigation at inquests. 2. The papers should refrain from publishing such news for a month, and then all should simultaneously publish prominently an account of one such case. Again they should refrain from such publication for a month; meanwhile accurate records of cases and methods should be kept. If the results indicate a direct relationship, the publication of such news should be recognized as criminal. This would be animal experimentation on a large scale. The cooperation of the press could make possible some valuable deductions. The work of this committee will form weighty evidence as to the influence of the American press of to-day.

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[1] Typhoid Fever in Milwaukee and the Water-Supply, The Journal, July 16, 1910, p. 21[illegible].

[1] Dixon, Samuel G.: Law, The Foundation of State Medicine, The Journal A. M. A., June 8, 1907, p. 1926.

[2] Presented at Los Angeles, June 24, 1911.

THE LOS ANGELES SESSION

According to telegraphic advices, the Sixty-Second Annual Session of the American Medical Association, held in Los Angeles, California, during the past week, has been a remarkably successful one in every respect. While the distance from the center of population was great and deterred many who otherwise might have been present, nevertheless, on Tuesday night 2,024 had registered—an unusual number when the location is considered. It is not too much to estimate that between 2,500 and 3,000 will be the total registration—perhaps more. It is probable that the larger proportion of the arrivals at this session are early in the week because there is not a very populous section of country in the vicinity from which members are apt to come after the opening of the session. A large number of ladies accompanied the members, as the attendance at the meeting is being made the occasion for a summer outing. Many special trains were sent to the meeting, and a common topic of discussion was what route to take on the return trip and how many different attractions of the western country could be seen. The entertainments provided by the local Committee on Arrangements seem to have been on a more splendid scale than at any meeting heretofore held. The reputation of California for hospitality has been increased by the treatment of the visitors at the Los Angeles session. Commencing on page 57 of this issue, THE JOURNAL devotes thirty-two pages to the official minutes of the House of Delegates, entirely covering its first and second meetings, Monday morning and afternoon, June 26, except for three small reports near the end. The minutes will be continued in THE JOURNAL next week. The Address of the President, Dr. John B. Murphy, delivered before the General Meeting Tuesday morning, appears as the leading article in this issue of THE JOURNAL. The publication of Section papers and discussions will begin next week, July 8. The character of the scientific proceedings is not behind that of other years. Some programs did not contain so many papers and thus more time was saved for discussion, which is always a valuable feature. The Sixty-Second Annual Session is thus a success in every way and an occasion of pleasure and profit to those so fortunate as to be able to attend it.

Medical News

CONNECTICUT

State Society Meeting.—The 119th annual meeting of the Connecticut State Medical Society was held at Hartford, May 24-25. The following officers were elected: president, Dr. John G. Stanton, New London; vice-presidents, Drs. D. Chester Brown, Danbury, and Robert C. Paine, Thompson; secretary, Dr. Walter R. Steiner, Hartford, and treasurer, Dr. Joseph H. Townsend, New Haven. The society will hold its next annual meeting at New Haven, May 22-23, 1912.

ILLINOIS

Another County Bulletin.—The Williamson County Medical Society has commenced the publication of a little four-page bulletin called the *Williamson County Physician*. It contains some constructive editorial matter, announcements of the next meeting of the society, some personal news items, and some advertisements.

State Board of Health Appropriations.—The appropriations of the State Board of Health for sanitary purposes were increased by the general assembly just adjourned. The sum of $46,000 was given for the purchase and free distribution of diphtheria antitoxin in the state. An appropriation was also made for the care of poor persons bitten by rabid animals. Liberal appropriations were made for the enforcement of the medical practice act, to take the place of the fees turned in under the new law. Unfortunately, it is specified in this appropriation that no part of this sum shall be expended for legal services.

State Board of Health Handicapped in Prosecutions.—The recently enacted law, in effect July 1, requiring the State Board of Health to turn into the state treasury all moneys received from fees, fines and penalties, leaves the board without means to hire special attorneys to prosecute violators of the medical practice act in the several counties of the state. Suits must be brought hereafter through state's attorneys, few of whom instituted prosecutions in the past even when paid the fines collected. The State Board of Health fears that under the present conditions, the state will be overrun with unlicensed practitioners, who will practice in defiance of the law.

Chicago

Chicago Society Election.—Chicago Medical Society recently elected the following officers: President, Dr. Joseph M. Patton; secretary, Dr. George F. Suker; councilors, Drs. Charles E. Humiston, Frederick Tice, Frank Billings, Hugh T. Patrick and Edward M. Brown.

Personal.—Dr. Henry G. W. Reinhardt, coroner's physician, has resigned to become statistician of the Cook County Hospital. He will be succeeded by Dr. Edwin R. LeCount, professor of pathology at Rush Medical College.——Dr. John E. Siebel, Jr., will sail for Europe soon.

LOUISIANA

Parish Society Reorganized.—The physicians of Vernon Parish met at Leesville, May 17, and reorganized the Vernon Parish Medical Association, electing Dr. Finas P. Jones, Leesville, president; Dr. N. M. Palmer, Fullerton, vice-president, and Dr. M. R. McAlpin, secretary-treasurer.

Personal.—Drs. Benjamin H. Talbott and Joseph H. Pankey have been appointed members of the Board of Health of Dodson.——Dr. Hugo A. Gabert, New Orleans, on the occasion of the twenty-fifth anniversary of his entrance into the profession, was given a silver service by the Firemen's Charitable and Benevolent Association.——Dr. K. Winfield Ney, Madisonville, has leased the Hammond Sanitarium.

Election of Medical Club.—At a meeting of the Physicians' and Surgeons' Club of Shreveport, May 23, it was decided that the club should be continued and it was recommended that the name be changed to The Academy of Medicine. The following officers were elected: president, Dr. William K. Sutherlin; vice presidents, Drs. Joseph E. Knighton, C. Pearl Munday and Thomas F. Long, and secretary and treasurer, Dr. P. W. Oden.

MAINE

Society Meetings.—The physicians of Sanford and Springvale met recently and organized the Sanford Medical Society, electing Dr. Charles W. Blagden, president; Dr. W. H. Kelly, secretary, and Dr. Ernest L. Burnham, treasurer.——At the annual meeting of Somerset County Medical Society, held in Skowhegan, the following officers were elected: president, Dr. Leander A. Dascombe, Skowhegan; vice-president, Dr. Walter S. Milliken, Madison; secretary, Dr. Harry W. Smith, Norridgewock; delegate to the Maine Medical Association, Dr. F. S. Merrow, Norridgewock, and censors, Drs. Walter S. Stinchfield, John E. Wadsworth, Showhegan, and Justin D. Ames, Norridgewock.

MARYLAND

Baltimore

Personal.—Dr. Alexius W. McGlannan received the degree of M. A. at the commencement of Rock Hill College, Ellicott City, June 16.——Dr. George Heller is reported to be seriously ill with rheumatism.——Dr. Albertus Cotton has received the degree of A.M. from Ohio University.——Drs. Frederick Taylor, Herbert M. Evans, Lillian Welsh and Mary Sherwood have sailed for Europe.——Dr. Albert H. Carroll will spend the summer at Woods Hole, Mass., in research work.——Dr. Gordon Wilson has been appointed a member of the board of managers of the Maryland Tuberculosis Sanatorium.——Drs. J. Conrad Uhlig, Joseph E. Gichner, L. R. Klemm and William W. Ford have sailed for Europe.

Johns Hopkins Commencement.—At the commencement exercises of Johns Hopkins University, June 13, a class of eighty-four received the degree of M.D. The following announcements were made of changes in the medical faculty: Dr. Thomas R. Boggs was made associate professor of medicine; Charles D. Snyder, Ph.D., associate professor of physiology; Dr. Frank J. Sladen, associate in medicine; William E. Burge, Ph.D., instructor in physiology; Dr. Karl M. Wilson, instructor in obstetrics; Dr. Solon A. Dodds, assistant in obstetrics; Eli K. Marshall, Jr., Ph.D., assistant in physiologic chemistry; Dr. Isaac R. Pels, assistant in dermatology, and Dr. Maxwell Ross, assistant in medicine.

MASSACHUSETTS

Massachusetts Medical Society.—The 130th annual session of the Massachusetts Medical Society was held at Boston, June 13-14, and the following officers were elected: president, Dr. George B. Shattuck, Boston; vice-president, Dr. Ernest S. Jack, Melrose; secretary, Dr. Walter L. Burrage, Boston; and treasurer, Dr. Edward M. Buckingham, Boston. The next meeting will be held at Boston in June, 1912.

Personal.—Dr. Henry E. Doonan, South Hadley Falls, has been appointed associate medical examiner for the Third Hampshire County District, vice Dr. David E. Harriman, term expired.——Dr. John H. C. Gallagher, Chicopee Falls, has been appointed medical examiner of the Fifth Hampden District.——Dr. Frederick H. Thompson has been chosen as school physician of Fitchburg.——Dr. John F. Sullivan has been appointed school physician of Boston.

MINNESOTA

Personal.—Dr. Hibbert Winslow Hill, director of the division of epidemiology of the Minnesota State Board of Health, received the diploma of public health from the University of Toronto, June 9.——Dr. Arthur W. Shaleen, Hallock, has returned from Europe.

Society Merger Favored.—The Minnesota Valley Medical Association, at its recent meeting in Mankato, voted unanimously in favor of forming a union with the Southern Minnesota Medical Association and appointed a committee to carry on negotiations to bring about this result. The Southern [illegible] Association will act on the matter at its meeting in August.

NEW JERSEY

New Building for Sanatorium.—The budget of the city of Newark contains an item of $10,000 for the erection of a shack for the accommodation of patients on the sanatorium grounds at Verona, to accommodate thirty patients.

New Quarters for Academy.—The newly organized Academy of Medicine of Northern New Jersey took possession of its new quarters on the tenth floor of the Wiss Building, Newark, June 1. The academy occupies a half floor of the building and has accommodations for a laboratory, assembly room and office.

Building at Epileptic Village.—The contract for the erection of a building to be used for the treatment of feeble-minded men at the New Jersey Village for Epileptics, Skillman, has been awarded. The building is to cost $37,810.——An exhibition of the work done by the patients at the state village for epileptics was held in Newark, June 3, and on that day the institution was thrown open to the public for inspection.

Sanitarium for Treatment of Surgical Tuberculosis.—The North American Children's Sanitarium for the Treatment of Surgical Tuberculosis, Atlantic City, N. J., the direct successor of the North American Sanitarium for Convalescent Children, is about ready for the reception of patients. The sanitarium will be under the direction of an executive committee composed of Drs. H. Augustus Wilson, John B. Carnett and William L. Rodman of Philadelphia.

NEW YORK

For Flushing Hospital.—A benefit recently given netted $10,000 which is to be used for the erection of a new hospital for Flushing, L. I.

For Mount Vernon Hospital.—A twelve-day subscription campaign for the benefit of the building department of the Mount Vernon Hospital has resulted in pledges amounting to $75,000.

A Site for a Tuberculosis Hospital for Yonkers.—This city has received a gift of 5 acres of land as a site for a tuberculosis hospital from Alexander Smith Cochran. The common council will be asked to appropriate $50,000 for a building.

Personal.—Dr. Charles W. Webb, bacteriologist of the Clifton Springs Sanatorium, has been appointed bacteriologist of Ontario County.——Dr. Charles S. Allen, one of the oldest practitioners of Rensselaer, celebrated his 87th birthday, June 8.

New York City

Off for Europe.—The following have sailed for Europe: Dr. and Mrs. Theodore C. Janeway, Dr. and Mrs. Nathan E. Brill, Dr. William C. Lusk and Dr. and Mrs. Emery J. Thomas.

Addition to Minturn Hospital.—Plans have been filed for an additional story to the scarlet fever pavilion of Minturn Hospital at the foot of East Sixteenth Street, to cost $12,000.

German Bacteriologist Visits New York.—Dr. Erich Martini, a noted German bacteriologist who has been studying the bubonic plague in the far East for several years, and who has recently been visiting in New York City, has returned to Germany.

Local Medical Society Election.—At the annual meeting of the Harlem Medical Association, Dr. Thomas F. Reilly was elected president; Dr. Carl Goldmark, vice-president; Dr. Frederick C. Heckel, secretary; Dr. Seymour Oppenheimer, treasurer, and Drs. Frank C. Yeomans, John Remer and Martin Cohen, trustees.

Personal.—Dr. and Mrs. J. Wilford Allen, Dr. and Mrs. John D. Quackenbos and Dr. and Mrs. John Howland sailed for Europe.——Dr. Samuel B. Lyon, after fifteen years' service as superintendent of the Bloomingdale Asylum, will resign on July 1.——Dr. Charles S. Percival was rescued from a New Mexico desert recently by Capt. C. C. Farmer, Fourth U. S. Cavalry, and reached El Paso, June 11.——Dr. C. H. Chetwood received the honorary degree of LL.D. from Fordham University, at its commencement exercises, June 14.

Death-Rate Breaks Record.—Not in the history of the department of health has the death-rate for any one week been lower than for the week that ended June 11. There were 1,224 deaths from all causes recorded in the greater city compared with 1,389 for the corresponding week of last year, or 12.81 per cent. as against 15.81 per cent. in 1910. The death-rate from typhoid fever was the lowest that it had been in the last five years, there being five deaths as compared with ten of the previous year, and there were 385 deaths of children under 5 years as against 435 last year.

Cornell Commencement.—At the commencement exercises of Cornell University Medical College, June 14, a class of fifty-five was graduated. The John Metcalfe Polk memorial prizes were awarded to Helen Dudley, Elvira Dudley Dean and Wesley Manning Baldwin. Dr. Baldwin is to continue his studies in anatomy abroad during the coming year. The prizes in otology were given to Dr. Arthur William Justin and James

Edward McCormick. At a special meeting of the faculty, held prior to the commencement exercises, a set of engrossed resolutions was presented to Prof. Rudolph A. Witthaus, commemorating his years of distinguished service in the institution and expressing the regret of the faculty for his voluntary retirement from the chair of chemistry, toxicology and medical jurisprudence, which he has held since the college was opened. The dean expressed his satisfaction at the fact that Professor Witthaus would still retain a close connection with the college as professor emeritus.

OHIO

Personal.—Dr. Chalmers D. Morgan, Galion, has returned from Europe and is now located at Columbus.——Dr. Charles Barnsdall Parker, Cleveland, has received the honorary degree of Master of Science from the Ohio Wesleyan Medical School.——Dr. Fred L. Watkins, Columbus, registrar of the State Bureau of Vital Statistics, has handed in his resignation to Secretary of State Graves.——Dr. Frank H. Yarnell, West Lafayette, is suffering from blood poisoning in the hand as the result of a rusty nail scratch; although his condition is still serious, the progress of the disease has been arrested.——Dr. Harry E. Welch, Youngstown, has been reelected health officer by a unanimous vote.——The board of health of Dayton will make its headquarters at the home of Dr. Herbert C. Haning, a member of that board, at 143 West Fourth Street.

Cleveland

School Notes.—Fourteen men were graduated at the sixty-seventh annual commencement of the medical department of the Western Reserve University. The following faculty changes have been announced: Dr. George W. Crile was made professor of surgery; Dr. Carl A. Hamann has resigned as professor of anatomy and has been elected professor of applied anatomy and clinical surgery; Dr. Henry Gerstenberger was made assistant professor of pediatrics; Dr. Frederick C. Herrick, associate in surgery; Dr. Walter H. Merriam, associate in medicine; Dr. William H. Weir, associate in gynecology; Dr. John J. Thomas, associate in obstetrics; Dr. Davidson Black, associate in histology and embryology; Dr. James D. Pilcher, associate in pharmacology and materia medica; and George B. Farnsworth, instructor in obstetrics.——The medical department of the Ohio Wesleyan University, now absorbed by Western Reserve, graduates twenty-two men this year.

Personal.—Dr. John M. Ingersoll has sailed for Europe and will study in Vienna during the summer.——Dr. Henry O. Feiss has resigned his position as orthopedist to Lakeside Hospital and has suspended practice, expecting to devote his time to experimental research.——Dr. Chauncey W. Wychoff has been appointed assistant director of the Central Dispensary and Milk Laboratory of the Babies' Dispensary and Hospital.——Dr. Alfred I. Ludlow has resigned as demonstrator of surgical pathology in Western Reserve Medical Department.——Dr. Rodger G. Perkins has departed for his summer home in Rhode Island.——Dr. Henry Gerstenberger, director of the Babies' Dispensary and Hospital, has entered private practice.——Dr. Arthur M. Tweedie has moved to Dickinson, N. D.——Dr. David Marine has gone to California for the summer, and will devote his time to research work.——Dr. Harlan Pomeroy, who has been seriously ill with angina pectoris, is reported to be much improved.

PENNSYLVANIA

Births Exceed Deaths.—The bulletin of the State Department of Health, issued June 11, announces that in 1910 there were 209,636 births recorded in the state, as compared with 119,717 deaths.

Cement Region Physicians Meet.—The Cement Medical Association, at its annual meeting in Siegfried, June 6, elected the following officers: president, Dr. Edgar J. Klotz, Northampton; vice-president, Dr. Jacob E. Longacre, Weaversville; secretary, Dr. M. G. Miller, and treasurer, Dr. Nathan C. Peters, Cementon.

Personal.—Drs. Louis Starr, E. B. Mongel and Morris B. Miller have sailed for Europe.——Dr. J. Chalmers DaCosta received the honorary degree of LL.D. at the commencement exercises of the Villanova College, June 14.——Dr. Edgar Fahs Smith received the honorary degree of LL.D. from Rutgers College, June 21.

Philadelphia

Off for Europe.—Drs. Arthur V. Meigs, George Strawbridge and Alfred R. Allen sailed for Europe, June 17.

Reduction in Infant Mortality.—According to the report of the Bureau of Municipal Research, 336 babies under 2 years of age died from January 1 to June 1 during the present year as compared with 418 for the corresponding period of last year, a decrease of 20 per cent.

University Commencement.—At the 155th annual commencement of the University of Pennsylvania, held in the Academy of Music, June 21, Thomas R. Marshall, Governor of Indiana, delivered the address to the graduates and 152 men received the degree of doctor of medicine.

Personal.—Dr. John A. Kolmer has been elected professor of pathology and director of laboratories in the Philadelphia Polyclinic and College for Graduates in Medicine.——Dr. James C. Wilson, professor of practice of medicine and clinical medicine at the Jefferson Medical College for twenty years, has resigned.

Pier Hospitals Opened.—The summer's campaign against infant mortality was begun June 15 with the opening of the Chestnut Street and the Race Street Piers for poor children. There is a hospital on each one, but the Race Street Pier will be open day and night and will confine its work to the sick children, while the Chestnut Street Pier will be an open air playground and the beds will be used for tired children and those too small to walk. Milk will be supplied free to mothers for their infants and modified milk and barley water will be sold for 1 cent a bottle. Six nurses have been allotted to this work, three to each pier, and Dr. L. A. Wilkes is in charge of the Race Street Pier.

TENNESSEE

Nashville and Tennessee Universities Dissolve Relations.—The medical departments of the University of Nashville and the University of Tennessee, Knoxville, combined more than a year ago for the purpose of greater efficiency, have dissolved relations. The medical department of the University of Tennessee will be removed to Knoxville; that of the University of Nashville will be abandoned.

WISCONSIN

Personal.—Dr. and Mrs. Martin Hagen, Cashton, sailed for Europe, May 30.——Dr. Wade Hampton Brown, Madison, formerly assistant professor of pathology in the University of Wisconsin, has been elected professor of pathology in the University of North Carolina, Chapel Hill.—Dr. Aaron Yaffe, Milwaukee, intern in the Emergency Hospital for two years, has resigned.——Dr. John M. Dodd, Ashland, fractured his right arm, June 1, while cranking his automobile.——Dr. Bartholomew Bantley, for eight years surgeon of the Wisconsin Veterans' Home, Waupaca, has returned to Milwaukee to resume practice.——Dr. John P. G. Bjorkman, Racine, who has been critically ill with septicemia for several months, has recovered and resumed practice.——Dr. Sherman E. Wright, Marinette, has been made an honorary member of the Fox River Valley Medical Association.——Dr. Calvin F. Hess, Madison, who was operated on, May 2, for appendicitis, is convalescent and has returned home.——Dr. L. Winfred Sayles has been appointed health officer of Baraboo.——Dr. Maurice A. Bernstein, Kenosha, has been appointed senior physician at the Cook County (Ill.) Infirmary, Oak Forest.

GENERAL NEWS

Tri-State Physicians Meet.—At the semi-annual meeting of the Tri-State Medical Association of Ohio, Indiana and Michigan, held in Toledo June 6, the following officers were elected: president, Dr. Charles M. Smith, Toledo; vice-president, Dr. Victor C. Vaughan, Ann Arbor, Mich.; secretary, Dr. George W. Spohn, Elkhart, Ind. (reelected), and treasurer, Dr. Joseph A. Weitz, Montpelier, O. (reelected). The next meeting will be held in Fort Wayne Ind., in December.

Pediatrists Elect.—At the twenty-third annual meeting of the American Pediatric Society, at Lake Mohonk, N. Y., May 31-June 2, the following officers were elected: president, Dr. Augustus Caille, New York City; vice-president, Dr. Percival J. Eaton, Pittsburg; secretary, Dr. Samuel S. Adams, Washington, D. C.; treasurer, Dr. Charles Hunter Dunn, Boston; recorder and editor, Dr. Linnaeus E. La Fetra, New York City. The next meeting will be held in Hot Springs, Va., May 29-31, 1912.

National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.—At the tenth annual meeting of this association, held in St. Louis, June 16, the following officers were elected: president, Dr. William T. Shanahan, Sonyea, N. Y.; vice-presidents, Mr. W. C. Graves, Chicago, and Dr. Albert S. Priddy, Keyesville, Va.; secretary-treasurer, Dr. James F. Munson, Sonyea, N. Y.; chairman of the executive committee, Dr. David F. Weeks, Skillman, N. J.; and editor of transactions, Dr. William P. Spratling, Baltimore. The place of meeting for 1912 is yet to be decided.

Throat, Nose and Ear Specialists Hold Meeting.—The American Laryngological, Rhinological and Otological Society held its seventeenth annual meeting at Atlantic City, June 1-3, and the following officers were elected: president, Dr. G. Hudson-Makuen, Philadelphia; vice-presidents, Drs. Theodore W. Corwin, Newark, N. J., chairman of the eastern section; John A. Thompson, Cincinnati, chairman of the middle section; Dr. Thomas J. Gallaher, Denver, chairman of the western section, and Dr. Otto Joachim, New Orleans, chairman of the southern section; secretary, Dr. Thomas J. Harris, New York City, and treasurer, Dr. Ewing W. Day, Pittsburg, Pa.

Rockefeller Institute Staff Appointments.—At a recent meeting of the Board of Scientific Directors of the Rockefeller Institute for Medical Research the following staff appointments were made: Dr. Alfred E. Cohn, associate in medicine; Dr. Arthur W. M. Ellis and Alphonse R. Dochez, assistant resident physicians; Dr. Frank W. Bancroft, associate in experimental biology; Dr. Reinhard H. Beutner, assistant in experimental biology; Drs. James B. Murphy and Henry K. Marks, assistants in pathology; J. J. Bronfenbrenner, fellow in pathology; Dr. Frederick B. LaForge and Angelina M. Courtney, assistants in chemistry, and Helen L. Fales, research scholar in chemistry.

Climatologists Meet.—The annual meeting of the American Climatological Association was held in the new medical building of McGill University, Montreal, June 1 and 2, and the following officers were elected: president, Dr. A. D. Blackader, Montreal; vice-presidents, Drs. H. M. King, Loomis, N. Y., and Carroll E. Edson, Denver; secretary-treasurer, Dr. Guy Hinsdale, Hot Springs, Va.; representative on the executive committee, Dr. Roland G. Curtin, Philadelphia; alternate, Dr. Thomas Darlington, New York; councilors, Drs. John W. Brannan, New York, Thomas Darlington, New York, Thomas D. Coleman, Augusta, Ga., Charles E. Quimby, New York, and Edward R. Baldwin, Saranac Lake, N. Y.

Mississippi Valley Medical Meeting.—The preliminary announcement of the thirty-seventh annual meeting of the Mississippi Valley Medical Association has been issued. The association will meet at Nashville, Tenn., October 17-19, under the presidency of Dr. Robert H. Babcock, Chicago, the subject of whose address will be "Medical Tendencies." The address in surgery is to be delivered by Dr. Joseph D. Bryant, New York City, on "The Indebtedness of Posterity to the Pioneer Surgeons of the Mississippi Valley," and the address on medicine by Dr. James C. Wilson, Philadelphia, on "Doctors and the Public." There is to be a symposium, including both sections of the society, on the "ptoses," with papers by Drs. E. W. Suckling, Birmingham, Eng., on visceroptosis, and a report of four hundred operations for nephroptosis by Mr. D. Billington, Birmingham, Eng. There will also be symposiums on cholecystitis and genito-urinary diseases.

CANADA

Provincial Medical Association.—At the annual meeting of the Ontario Medical Association, held in Niagara Falls, May 30-June 1, the following officers were elected: president, Dr. Herbert A. Bruce, Toronto; vice-presidents, Drs. F. W. E. Wilson, Niagara Falls, William Hall, Brampton, F. Drake, London, and George Field, Coburg; general secretary, Dr. F. A. Clarkson, Toronto, and treasurer, Dr. J. Heurner Mullin, Hamilton.

National Laboratory at Ottawa.—Under the supervision of the Health Department of the Canadian Conservation Commission, Canada is to have established in the immediate future, a national laboratory for the manufacture of sera, vaccines, toxins and antitoxins. A subcommittee of the federal cabinet has approved of the proposal and has recommended speedy provision for the construction and equipment of the laboratory. This proposition also was endorsed by the Canadian Medical Association at several of its recent meetings.

Medical Convocation at McGill.—At the medical convocation of McGill University on the 5th of June, thirty-one candidates received their M.D., C.M. degrees. Dean Shepherd announced Lord Strathcona's latest gift of $100,000 for the completion of the new medical buildings. Honorary degrees of doctor of laws were conferred on Drs. Richard A. Reeve and Prof. Archibald B. MacCallum, Toronto; Dr. John Stewart, Halifax, and Hon. Dr. Henry E. Young, Victoria, B. C., and Drs. L. E. Barker and W. T. Councilman of the United States.

McGill Medical Reunion—New Medical Building Opened.—June 5 and 6 were the days set apart for the McGill medical reunion and the opening of the new medical buildings. The ceremony of opening the buildings was performed by Earl Grey, who was presented with a gold key for the occasion. The new medical building is by far the largest building of the group of buildings which comprise the university. It has a frontage of 268 feet toward the campus, and the east and west wings run back, respectively, 171 and 114 feet. The erection of this building was made possible by the generous donation of $450,000 by Lord Strathcona, which went to supplement handsomely the insurance of $336,500 on the buildings destroyed a few years ago by fire. The medical reunion brought together over 500 graduates.

Personal.—Dr. George A. Armstrong, Montreal, has been appointed chief surgeon at the Royal Victoria Hospital, Montreal, in succession to the late Dr. James Bell.——Dr. Andrew MacPhail, Montreal, was severely injured by the explosion of a bottle of aerated water, June 14.——Drs. J. W. Harris and George M. Biggs, London, have resigned from their positions on the staff of the London Hospital for the Insane and have sailed for England. The staff of the hospital presented them with a steamer trunk, club bag, gold-headed umbrella and addresses.

Annual Report, Queen's Medical Faculty.—The past session at the medical department of Queen's University, Kingston, Ont., was the largest in its history, the number in attendance being 232. Many other applications for admission were received but rejected for various reasons, showing that Queen's keeps a keen edge on the class of candidates it admits to the study of medicine. Twenty former students were also refused admission on account of incomplete matriculation. Owing to the death of Dr. Isaac Wood, Dr. Gordon W. Mylks was appointed associate professor of obstetrics and gynecology and professor of pediatrics; and Dr. Charles Alex Morrison appointed to succeed Dr. Mylks as associate professor of applied anatomy. Dr. George E. Kidd took charge of the anatomic department, succeeding Dr. Frederick Etherington, resigned. Dr. Kidd is, at present, spending the summer in Glasgow, London and Edinburgh. The faculty decided to develop its library and spend $5 per student per year on its maintenance.

Queen's University and the Ontario Medical Council.—In the bulletin issued quarterly by the Medical Faculty of Queen's University, Kingston, Dean Connell has something to say with regard to the proposed amendment to the Ontario Medical Act, fathered by the University of Toronto to confer special privileges, as regards examinations and licenses, on that institution. The proposed amendment did not find favor with the legislature nor yet with the medical profession at large throughout the province. The article states that "The council stands for a principle which is of vital interest for the maintenance and advancement of medical education in the province." Dean Connell considers that the council must grant a radical measure of reform or cease to exist—and this reform must take place at the coming meeting of the council in July. Propositions are advanced which will be supported by the representative from Queen's and also, it is understood, by other members of the council. 1. Matriculation to be uniform with junior matriculation in arts as conducted by the education department. 2. The universities to arrange the details of the courses; five years. 3. One final examination at the end of the fifth year; a workable system of assessors. 4. Fees reduced materially, say from $25 to $50; probably the establishment of fellowships or research scholarships. 5. Reorganization of the council as follows: eight territorial representatives, one homeopath, and three collegiates; thus doing away with four homeopaths, ten territorials and the five representatives from defunct medical institutions.

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, June 16, 1911.

An Attempt to Assassinate Dr. Guinard

June 12, when Dr. Guinard, surgeon of the Hôtel-Dieu, was leaving the hospital, one of his former patients, named Herrero, sprang from behind a pillar and fired five shots into the surgeon's back before anyone could interpose. The would-be assassin said that he wished revenge on Dr. Guinard for excising his rectum without cause. Dr. Guinard was taken to the operating room, where Drs. Rochard and Pierre Duval performed a laparotomy, finding six intestinal perforations.

May a Pharmacist Absent Himself Regularly from His Shop?

The tribunal of the Seine was recently called on to decide the question whether or not a pharmacist who is regularly absent from his shop, except from 5 to 7 p. m., is thereby breaking the law. The pharmacist's apprentice and the pharmacist himself were both prosecuted: the first for illegal practice of pharmacy, and the second for complicity therein. The line of defense was that prescriptions were filled only in the evening under the eyes of the pharmacist. During the day the apprentice sold only non-medicinal products such as mineral waters, tooth pastes, etc. Under these conditions the defense held there was no illegal practice of pharmacy, even in the pharmacist's absence. The court, however, ruled against the defense and imposed on the apprentice a suspended fine of $100 (500 francs). It fined the pharmacist the same amount but did not suspend his fine. The Syndicat des pharmaciens, which was civil party to the suit, moreover obtained $40 (200 francs) as damages.

The Heroic Death of a French Army Physician

A dispatch from Ras-el-Ma announces that Dr. Lucien Auvert has just died like a hero in Morocco in the engagement of Mékès, two hours' distant from Fez. At the time of the first expedition to Morocco Dr. Auvert asked to be allowed to accompany the column but his request was refused. It was granted, however, at the beginning of the second campaign. Major Auvert had distinguished himself everywhere by acts of bravery, and his death, on the firing-line, where he was caring for a wounded soldier, was a fitting close for such a life. The injured soldier was about to be removed from the firing-line to have his wound dressed. "No," said Auvert, "to carry him away would be fatal. In a few minutes I can make a first dressing which may save him." While endeavoring to save the man's life he himself fell mortally wounded.

A Duty of Specialists Toward General Practitioners

In medical circles the question of the duty of specialists toward general practitioners is being warmly discussed in connection with the following incident: A Belgian physician attended a young married woman during her pregnancy and confinement, which presented nothing abnormal. The child was healthy. Nine months afterward the physician attended the same patient for a uterine affection. The husband then confessed to the physician that he had infected his wife at the time of his marriage and that she had been treated by a specialist who had had her under intensive mercurial treatment from the beginning of the pregnancy, but had failed to warn the obstetrician who had charge of the confinement. Thus the obstetrician and the nurse ran the risk of infection, for, being unwarned, they had taken no unusual precautions. There can be no doubt that a specialist does not infringe on medical secrecy in confiding to another physician, likewise bound to secrecy, the nature of a patient's disease, and that the specialist in the present case neglected a manifest duty in omitting to warn his colleague.

The Franco-American Institute

In a previous letter (THE JOURNAL, Feb. 12, 1910, p. 549) I mentioned the formation of the "Franco-America" committee for promoting exchanges between the United States and France. Frenchmen and Americans belonging to the scientific, artistic and political world, met on June 14 in the ministry of public instruction and formed the Franco-American Institute for the purpose of facilitating such exchanges. M. Emile Boutroux, who has recently visited the principal university and literary centers of the United States, made an interesting communication in which he sketched the intellectual and moral evolution which is taking place among the Americans, who are now, he said, learning to respect the antiquity which they have long despised in favor of bizarre novelties.

Medical Students and Classical Studies

During its last session the committee of the Association corporative des étudiants en médecine de Paris unanimously passed a resolution to the effect that classical studies constitute a preparation for medical study altogether superior to that which most young people intending to study medicine receive, and that in future no substitution ought to be allowed for the present diplomas and the baccalaureate degree, which are the best means of controlling secondary studies.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 19, 1911.

Personal

Professor Payr of Königsberg has been called to Leipsic as the successor of Professor Trendelenburg. Payr came to Königsberg a short time ago from Greifswald.

Professor Dürck, director of the institute of pathologic anatomy at Jena, is exchanging places with the prosector of the municipal hospital on the right of the Isar in Munich. This remarkable occurrence, in which a regular professor abandons his position for that of a prosector, is explained by the fact that in the first place Dürck is a native of Munich, and probably does not feel at home in Jena, a small university town, and further by the continual lack of pathologic material in Jena. Dürck was for many years assistant at the pathologic institute in Munich.

At the close of the summer semester, Prof. B. Fraenkel will resign his position on account of his advanced age and his impaired health of late years. The oft-renewed question whether the Berlin laryngologic clinic shall be maintained as a separate department or be merged with the otologic clinic will now attract attention. In general, the wish is expressed here that the former policy may be pursued and that Professor Killian of Freiburg may be asked to take Fraenkel's place. The contrary tendency, to unite both clinics under the direction of the otologist, Professor Passow, is so strong on account of the influence which Passow possesses in court circles, that it is doubtful how the question will be decided.

Professor Ehrlich has been elected as an honorary member of the Academy of Sciences at Bucharest, and has received the Liebig medal of the German Chemical Society as a special honor. The honors accorded to the discoverer of salvarsan are accumulating in an uncanny way and to an extent quite out of proportion to the real value of his discovery, and to the honors which such men as Robert Koch, Pasteur, Behring and other discoverers in former times received. The value of such distinctions in general, especially in Germany, has depreciated remarkably in consequence of their commonness of late. A striking example of this fact is the circumstance that the city of Kolberg voted the freedom of the city to a member of the Prussian state medical department, Professor Dietrich, for his services in organizing the recent congress of thalassotherapy. To obtain such an honor, the highest which a city can bestow, a man should have performed greater services than merely to make arrangements for holding a scientific annual meeting.

The Königsberg anatomist, Stieda, celebrated the semicentennial of his doctorate June 10.

Legal Consequences of a Physician's Experiment

As a result of his studies on trachoma which led him to the apparent result, not confirmed by others, that the germ of trachoma was a modified gonococcus, Dr. Herzog, privat-docent in ophthalmology in Berlin, undertook experiments in April of last year in the ophthalmologic clinic at the municipal hospital of Triest, to confirm his conclusions. Among other methods he asked of Dr. Manzutto, the director of the department, the privilege of inoculating the blind eye of a patient with a culture of gonococci. Dr. Manzutto at first refused his consent on account of the danger of causing an infection of the sound eye, but he finally allowed himself to be persuaded to consent. Without the knowledge of Dr. Manzutto, Dr. Herzog made a second injection, and that after the sound eye had been operated on for cataract. Soon after the injection of a virulent gonococcus culture, an inflammation of the operated eye set in which endangered vision, but was finally cured. As a result of the injury to the patient suit was entered against Dr. Manzutto, while Dr. Herzog, anticipating that he would be held responsible, left Austria. Dr. Manzutto was fined $50 by the lower court, but he appealed from this judgment and was acquitted at the second trial, on the plea that he could not have supposed that a man of recognized scientific reputation would, behind his back, apply a method different from that which had been discussed between them.

Care of the Insane in War

A number of measures for the care of the insane in time of war have been taken by the Prussian military authorities. A supply of hypnotics and sedatives for quieting excited maniacs has been installed at the individual army posts. As under some circumstances it may be necessary to provide a special ward for the insane, there have been provided for each depot of supplies twelve tubs for permanent baths, twenty box or lattice beds, twenty pairs of shoes which cannot be torn, twenty straight jackets, and finally a number of earth-closets (*Torfmullklosetts*). A number of the nurses of the military hospital service have been specially trained for the care of the insane. An increasing number of physicians are required to attend psychiatric clinics in receiving their training so that a sufficient number of the medical force will be available for the care of mental cases. Special cars for the transport of these patients to their homes need not be provided, as the ordinary hospital train can be adapted to this purpose, with a few slight changes which can be quickly made and will not be needed in the first few weeks of a war.

Correspondence

Salvarsan and Patents

To the Editor:—I was very much interested in the article by Dr. F. E. Stewart of Germantown, Pa., that appears on page 1076 of your journal of June 3, 1911. [It is not the article, but an abstract thereof, in the report of a society meeting.—Ed.]

I have noticed a number of articles of this kind on Salvarsan and Professor Ehrlich, appearing in many instances in the "house journals," or written by indirect employees of some of the manufacturing concerns on this side. [Our correspondent here refers to the connection of Dr. Stewart with the H. K. Mulford Co.—Ed.]

It is interesting to note that Dr. Stewart says, "we are told." It is hard to tell by whom "we are told," and a statement a little more definite would be interesting. Without going into the merits of Professor Ehrlich's discovery, or the Professor's professional ethics, which I hardly believe need any championing, did it ever occur to the physicians at large, what might happen if a product like Salvarsan which has taken years of research and large sums of money to perfect, were not patented or covered in some way to guarantee that the product finally put on the market, would be reliable?

I recall very clearly some years ago that when the Hoechst-Farbwerke, who are now putting out Salvarsan, also put diphtheria antitoxin on the market, they did not take the precaution of patenting it at the time, or copyrighting a name for the product. The result was that through the description of the works, which Consul-General Mason, then in Frankfurt, sent to the United States, it was only a short time before antitoxin plants sprang up all over this country. Not only private individuals, but local boards of health began to make antitoxin, without yielding the inventor or the firm that made it possible, through investigations, to produce the product commercially, any royalty or remuneration of any kind, but instead, depriving them of a legitimate market in which there was a great demand for the product.

The imported article paid 25 per cent. duty. When the McKinley tariff was under discussion, there appeared one morning a clause placing antitoxin in the dutiable list at 100 per cent. This was not inspired by any clamor for the "home product," but simply by some manufacturers on this side who had taken up the making of antitoxin. Senator White of California moved to have the clause stricken out, and it remained with a duty of 25 per cent., which it still pays.

A patent was eventually granted for antitoxin to the Farbwerke, but they never saw fit to avail themselves of this protection or interfere in any way with those manufacturing on this side.

Your files will probably show that in one city at least, which took up the manufacture of antitoxin, the unfortunates who were treated with it, died of lockjaw, although they were cured of diphtheria. Another one of the American manufacturers who very strenuously objected to the Board of Health of New York city selling antitoxin to other cities, I found on investigation, during my recent incumbency of the office of comptroller of this city, was one of the best customers that the board of health had for its surplus antitoxin, and that the firm in question bought it in bulk, put it out under its own label, and continued discussing the ethics and propriety of a municipality competing with a private industry.

If Professor Ehrlich and the Farbwerke, in the interests of all concerned, and primarily those needing the remedy, have decided to protect in every way its production by patent as well as trade mark in all countries of the world, they are certainly guaranteeing to the profession and the sufferers the quality of the product they use.

Undoubtedly, there are others who could manufacture Salvarsan, but it does not follow that every one with a laboratory, or stable for producing vaccine virus or antitoxin, can produce as complicated a chemical preparation as Salvarsan. It would be pretty hard to tell just what might be turned out if some one took up the manufacture on a large scale, and sold it in bulk for proprietary houses to sell under their own label.

It is not always well to generalize, and what may not be quite ethical in one case may be more than ethical, and in fact, eminently proper and fitting in another.

It is well sometime to inquire into the sources of these complaints, and the antecedents, and motives of some of those who either directly or indirectly are responsible for these veiled insinuations against the acts of others.

As before stated, neither Professor Ehrlich, nor Salvarsan, nor the Farbwerke Hoechst, need any apologies or justification for their acts from me. They are all large enough to stand by themselves on their records.

But to one who knows something about the inside of these matters, it is certainly illuminating and impressive to see the many ways in which some folks try to create unfavorable impressions regarding a new product, "of course," in the most "disinterested" manner, and on the basis of the "highest possible ethics."

H. A. Metz, New York.
President, Victor Koechl & Co.

[Comment.—This letter presents the views of a manufacturer of proprietary medicines. While there is some justification for his attitude, and while we do not wish at this time to discuss the ethics of proprietorship in medicines, we believe that the medical profession will disagree with the view taken. The public could have been protected in other ways than by monopolizing salvarsan. If Professor Ehrlich had published in detail the method of manufacturing salvarsan and had provided standards and tests whereby its good quality could be determined, the difficulty in securing for the medical profession a supply of unquestioned purity would not have been an insurmountable one.—Ed.]

Commissions Offered and Refused

THE OFFER

Dr. ——— ————

Dear Sir:—You will receive our check for $3.00 for every woman for whom you prescribe one of our ——— ——— as soon as we receive our pay for it. Your patient will get the best materials and workmanship she ever had. . . .

Respectfully yours,
———— ———— Co.

THE ANSWER

———— ———— *Company*,

Dear Sirs:—I have your letter stating that you will send me a check for $3.00 for every woman for whom I prescribe one of your ———.

You are perhaps not aware that all right-thinking members of our profession make a note of such a letter, and take particular pains to see that no people are sent to you. We have a list of several manufacturers who offer us commissions or profit in one way or another, and we keep the list in order to make sure that no one is sent from us to them.

Yours truly,
—— ———— ————.

Single Trauma and Cancer.—H. Schöppler adds another to the few cases of this kind on record. A cancer developed in the breast of a woman of 36, a month after a fall on the stairs, the left breast striking the banister post. By the third month an excised scrap of the tumor showed carcinoma, and recurring growths developed two months after its removal. The breast had been previously normal, he states, and the single trauma had undoubtedly led to the development of a carcinoma. The case is reported in the *Zeitschrift für Krebsforschung*, 1911, x, 219. Abramowski in the same number publishes a study of the predisposition and irritation as factors in cancer. He ascribes the increasing prevalence of cancer in women to the measures to prevent pregnancy and the lack of breast nursing which affects injuriously both the mother and child. In men the consumption of alcohol is a predisposing factor.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ROENTGEN-RAY PICTURE: ROENTOGRAM; ROENTGRAM

To the Editor:—What shall we call the Roentgen-ray picture? Every term proposed and used to date is too general or else too much of a jaw-breaker or time-waster. "Skiagram" is not a good term, for this means merely a shadow picture, whereas radium, the Becquerel rays and probably other substances soon to be discovered all produce shadow pictures. "Radiogram" is open to the same objection, since a number of different kinds of rays are able to produce shadow pictures.. Life is too short and time too fleeting to use the term "roentgenogram," which roentgenologists are trying to force on the world. Even if we adopt it now it will be thrown out as useless ballast sooner or later. What is the matter with "roentogram?" This indicates the special Roentgen technic, while it is comparatively terse and is readily found in the index on turning to Roentgen. It seems absurd to index under A ("actinogram") or S ("skiagram"), or X ("*x*-ray picture") what one naturally would turn to under R ("roentogram"). C.

ANSWER.—If long words trouble our correspondent, why not go one step further and use "roentgram"?

MALARIA AND METHYLENE-BLUE

To the Editor:—What is the dosage and method of administration of methylene-blue in chronic malaria? When was malaria discussed in your therapeutic column? G. P.

ANSWER.—Methylene-blue may be administered in doses of 0.13 gm. to 0.2 gm (2 to 3 grains), given in capsules with a little powdered nutmeg, repeated every four hours. The patient should always be warned that his urine will be colored blue. This treatment should never be used *in estivo-autumnal* malaria. The treatment of the different forms of malaria is discussed in the Department of Therapeutics in THE JOURNAL, Aug. 3, 1907, p. 427; Aug. 17, 1907, p. 615, and Aug. 31, 1907, p. 786.

PREPARATION OF COW'S MILK FOR MARKET

To the Editor:—Some years ago I read an article on preparing cow's milk for market. When fully prepared, according to this article, there was nothing added to the milk except 0.5 per cent. of water. Can you help me get that article?

H. S. PICKARD, North Syracuse, N. Y.

ANSWER.—Budde, in 1904, advocated the treatment of milk with 0.5 per cent. hydrogen dioxid and subsequent heating to 52 C. (125 F.) in a covered vessel and keeping at this temperature for eight or ten hours. Subsequent investigations appear to have shown that the process is unreliable, in that it does not completely destroy the bacteria and appears to destroy a ferment contained in milk, which is probably useful. The method is quite fully described in Hewlett's article "Experimental Investigation of the Budde Process for the Preservation of Milk" (*Lancet*, London, Jan. 27, 1906; abstr. in THE JOURNAL, Feb. 24, 1906, p. 621). The following references may be consulted:

Budde: New Method of Sterilizing Milk, *Hygica*, lxvii, No. 3, 1904; abstr. in THE JOURNAL, May 21, 1904, p. 1396.
Medin, O.: Treatment of Milk with Peroxid of Hydrogen, *Hygica*, March, 1908; abstr. in THE JOURNAL, May 23, 1908, p. 1762.

AN ERROR IN DOSAGE OF POTASSIUM IODID

To the Editor:—In the article by C. H. Snover on "Chronic Lead [illegible] rnal, June 17, pp. 1799-1800), under the [illegible] the author is made to give 30 gm. of potas- [illegible] daily. Should not this be 30 gr. three times a day instead of 450 gr.?

THOMAS H. DICKSON, JR., M.D., St. Paul, Minn.

ANSWER.—The dose as it appears on the printed page is certainly excessive. This is a case of a dropped decimal point. The dose in the manuscript read ".30 gm."

The Public Service

Medical Department, U. S. Army

Changes for the week ended June 24, 1911.

Frick, Euclid B., lieut.-col.; Ashburn; Percy M., major, and Thornburgh, R. M., major, ordered to proceed to Los Angeles to represent the Medical Department of the Army at the sixty-second session of the American Medical Association, June 27-30, 1911.

Fauntleroy, P. C., major, relieved from medical supply depot, St. Louis, and ordered to Fort Benjamin Harrison, Ind., for duty.

Manly, C. J., major, granted leave of absence for one month.

Dade, Waller H., M.R.C., will proceed from San Francisco to his home and on arrival report by telegraph to the adjutant-general of the Army; Lieutenant Dade will stand relieved from active duty in the M.R.C. on expiration of leave of absence granted him this date; granted leave of absence for three months and one day, to take effect on arrival at his home.

Hess, John H., D.S., granted leave of absence for one month, to take effect about July 5, 1911.

Stephenson, William, lieut.-col., in addition to his duties as assistant to the chief surgeon, the eastern division, assigned to him in general order 74, June 6, 1911, W.D., is detailed as sanitary inspector.

Austin, Thomas C., lieut., granted thirty days' leave of absence about July 1, 1911.

Chamberlain, W. P., major, relieved from duty in the Philippines division, Jan. 15, 1912, and directed to proceed to London, England, to attend course at the London School of Tropical Medicine, and on completion of this duty to proceed to New York City for further orders.

Stallman, George E., D.S., left Fort Sam Houston, Texas, on three months' leave of absence.

Snyder, H. McC., lieut., left Fort Leavenworth, Kan., with Company E., Fifth Artillery, to Camp Sparta, Wis.

Munson, Edward L., major, is ordered to proceed to Niantic, Conn., for duty as inspector-instructor of the sanitary troops of the State of Connecticut during encampment, July 17 to 22, 1911.

Winter, Francis A., major, granted thirty days' leave of absence.

Nichols, Henry J., captain, granted thirty days' leave of absence.

Kelly, John P., M.R.C., is relieved from duty at Fort Hamilton, N. Y., on the return of Major Hess, M.C., to that post, and will proceed to College Park, Md., and report to the commanding officer of the signal corps detachment at that place for duty.

Rukke, Guy V., captain, left Jefferson Barracks, Mo., on ten days' *leave of absence.*

Betts, Charles A., M.R.C., granted three months' leave of absence, with permission to go beyond the seas, to take effect about Sept. 15, 1911.

Stone, John H., major, retired from active service on account of disability.

Cooper, Wibb E., lieut., ordered to return to Fort D. A. Russell, Wyo.; granted thirty days' leave of absence about July 1, 1911.

Gray, William W., colonel, ordered to St. Paul, Minn., for temporary duty, and on completion thereof will proceed to San Francisco, as heretofore ordered.

Medical Corps, U. S. Navy

Changes during the week ended June 24, 1911.

Cohn, I. F., P. A. surgeon, detached from the *Castine* and ordered to the *Michigan.*

Pugh, W. S., Jr., P. A. surgeon, detached from the *Dixie* and ordered to duty at the naval hospital, Boston.

Clifton, A. L., asst.-surg., detached from the *Michigan* and ordered to the *Castine.*

Sterne, C. F., asst.-surg., ordered to naval hospital, Las Animas, Colo., for treatment.

Malkin, G. M., A. A. surgeon, detached from the Navy recruiting station, Baltimore, and ordered to the marine recruiting station, Pittsburg, Pa.

Dessez, P. T., P. A. surgeon, ordered to the naval hospital, Boston, for duty.

Ledbetter, P. B., asst.-surg., ordered to the naval hospital, Norfolk, Va., for duty.

Brownell, C. D., surgeon, ordered to duty at the naval hospital, Portsmouth, N. H., when discharged from treatment at the naval medical school hospital, Washington, D. C.

Bogan, F. M., surgeon, detached from the naval hospital, Portsmouth, N. H., and ordered to the *Wisconsin.*

Melhorn, K. C., asst.-surg., detached from the *Dixie* and ordered to the naval hospital, Newport, R. I.

Stone, E. P., medical inspector, detached from the Navy yard, Boston, and ordered to command the naval hospital, Canacao, P. I.

Stitt, E. R., surgeon, detached from command of the naval hospital, Canacao, P. I., and ordered to temporary duty in the bureau of medicine and surgery, Navy department.

Kennedy, R. M., surgeon, detached from the naval station, San Juan, P. R., and ordered home to await orders.

Porter, F. E., P. A. surgeon, detached from the naval station, San Juan, P. R., and ordered home to await orders.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 21, 1911.

Geddings, H. D., surgeon, granted one month's leave of absence from May 23, 1911.

Eager, J. M., surgeon, directed to proceed to Palermo, Italy, for duty in the office of the American consul.

King, W. W., P. A. surgeon, leave of absence for three weeks from April 7, 1911, revoked.

Wille, C. W., P. A. surgeon, granted seven days' leave of absence from June 20, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed to certain parts on the drainage basins of lakes St. Clair, Huron and Michigan on special temporary duty.

Mullan, E. H., P. A. surgeon, granted one month's leave of absence from June 24, 1911.

Grimm, R. M., asst-surg., granted seven days' leave of absence from June 14, 1911, under paragraph 191, Service Regulations.

Bingham, E. O., A. A. surgeon, granted fifteen days' leave of absence from June 20, 1911.

Delgado, J. M., A. A. surgeon, granted fifteen days' leave of absence from July 1, 1911.

Mason, W. C., A. A. surgeon, granted nine days' leave of absence from June 21, 1911.

Mazzacarra, R., A. A. surgeon, directed to proceed from Messina, Italy, to Calabria on special temporary duty.

Miranda, R. U. Lange, A. A. surgeon, leave of absence for six months from June 3, 1911, without pay, revoked.

Parker, T. F., A. A. surgeon, granted fifteen days' leave of absence from July 1, 1911.

Pearse, H. E., A. A. surgeon, granted thirty days' leave of absence from June 22, 1911.

Wood, J. E., A. A. surgeon, died June 2, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

A RELIGIOUS NEWSPAPER ON THE BLACK PLAGUE

The growth of enlightened sentiment on public health questions is well illustrated by an editorial in a recent number of the *Congregationalist and Christian World* of Boston, which discusses, simply but forcibly, problems which a few years ago would have been considered unfit for comment on the editorial page of any lay newspaper, least of all a religious weekly. The *Congregationalist* is to be congratulated on its editorial wisdom and fearlessness. May its example be speedily followed by other religious papers! Here is the editorial:

> Rhode Island has lately been in a state of panic over the presence of a 14-year-old boy in one of its schools who has been discovered to be a leper. The authorities have strictly quarantined him and sought to make an arrangement that would establish him for life in the Massachusetts leper colony on the island of Penikese in Buzzard's Bay. Every one must be sorry for the boy and his family, and perhaps this plan of exile to the leper colony is the best solution of a difficult problem. On that beautiful island the boy will find the only social group in New England where he will not be regarded with dread and suspicion. There is already there a boy of his own age whose mother has exiled herself, probably for life, to become her son's companion.
>
> Doctors are not in agreement about the contagiousness of leprosy. Many of them maintain that it is not contagious at all, though they are not prepared to account either for its origin or to offer a cure. But there is a disease quite prevalent in Rhode Island and all the other states, which the doctors are all agreed is both contagious and which has been regarded as incurable as leprosy. Yet the victims go about the streets unquestioned and are received in homes, even though the rottenness in their bones shows plainly in the disfigurement of their faces. Their disease is so contagious that it has compelled the disuse of public drinking-cups. It may be caught innocently by the use of a towel or handkerchief after a sufferer, or the touch of a cut place on a hand. Husbands give it to wives and through them to unborn children.
>
> If we are going to segregate lepers in horror of contagion, it is high time we shut up syphilitics in a place where they cannot spread their rottenness. But it would take a larger island than Penikese to hold all these perilous sufferers from blood-poisoning and carriers of contagion.

AN INDEPENDENT EDITOR'S VIEW

In pleasing contrast to the position taken by some newspapers at the command of the interests opposed to public-health legislation, is the attitude of many high-class newspapers of the country, which have opened not only their news-columns but their editorial departments as well, to hearty and unqualified endorsement of the present movement for better health conditions. An excellent example of this class of newspapers is the Berkeley (Cal.) *Independent*, which has recently published a series of articles, discussing the Owen bill and the opposition to it. The *Independent* says that the time is ripe for explaining to its readers just what the National League for Medical Freedom is; for showing, in fact, that its only reason for demanding "medical freedom" is to permit the unhampered continuance of medical fakers, charlatans and health-cure pettifoggers, and that the danger to public health created by such a class is sufficient excuse for discussing the situation. After reviewing the history of the introduction of the Owen bill into congress and the hearings before the committee to which it was referred, the *Independent* says:

> There came to the hearings of the committee the representatives of the National League for Medical Freedom with the express purpose of killing the bill by any possible means. The vociferous opposition they raised was enough to deceive any except the most experienced. Any intelligent man knows that the national government has no more control, outside of the District of Columbia, over the practice of medicine than it has over the practice of farming or of law and, although the Owen bill proposed provisions for the prevention of disease, and not its cure, and made absolutely no provision for putting any kind of doctors in authority over any kind of body or thing, yet the practitioners of the homeopathic and eclectic and other schools were gravely informed that the "regulars" were to be in absolute control of homes and families, that even religious liberty was being threatened. The real people back of this clamor made little effort to keep their identity a secret and it soon became known. Among them were the patent-medicine people, the adulterators of food and members of other interests naturally at enmity with pure drugs and pure food and honesty and decency of method in such matters, fearful of every possible curtailment of the millions of yearly income they were deriving from their nefarious trade. They had organized into an unholy and corrupt conspiracy to mislead the people of the United States and to break down the profession which was taking the people's side against them—the American doctor.

After discussing the need of better health legislation the *Independent* concludes:

> These, then are some of the men who are opposing the regular physicians of the United States, calling them every possible name that the libel laws will permit, fighting every effort they are making to prevent illness in the United States and to promote healthful conditions. The National League for Medical Freedom is organized to protect its members' pockets, no matter what happens to the people.

Medicolegal

Mining Companies Not Liable for Services Rendered Injured Employees at Unauthorized Requests of Superintendents

The Supreme Court of Florida, Division A, holds, on the appeal of the Atlantic Refining Co. vs. Leffingwell & Berry (54 So. R. 266), that where a corporation operates a mining plant, and does not authorize its superintendents to employ a physician at the expense of the corporation to attend an employee injured by the machinery of the plant, the law does not imply such authority, at least where there is testimony that such authority was not given or contemplated by those exercising the rights of the corporation. The liability of the corporation for negligence that proximately injures an employee may extend to medical services to him, but this does not create a contract liability for such services.

In this case an employee in the mining plant of the company was injured by machinery in the plant, and a superintendent of the mine telephoned to one of the plaintiffs, a physician, to come to the injured man and bring another physician with him. The two plaintiffs went to the place and were met by the superintendent mentioned and another superintendent of the mining plant, who took them to the injured man, and asked them to take charge of him, and the other superintendent asked for a statement of the condition of the injured man to be sent to the home office of the company. The superintendents stated to the physicians that the man was injured by the company's machinery, and requested them to take charge of him, and they attended him after he was removed to his home. In answer to a letter written by the superintendents to the vice-president of the company the latter said that, while the company, as a manufacturer, was not responsible for physician's bills incurred by patients in the treatment of injuries received by accident in its factories, in this particular case the company was willing to pay such bills indirectly; that the company assumed no responsibility even for such bills incurred when in emergency a physician was summoned by the company; that all bills should be rendered to the patient, and the company would advance him such money as was necessary to pay reasonable charges for medical attention, etc.

Under these circumstances, and because in view of the testimony in the case it was not clear that the duties of the superintendents of the mining plant were such that the law implied therefrom authority to employ physicians for the company to attend employees of the company injured by its machinery, a new trial should have been granted, and the judgment obtained by the plaintiffs is reversed. A request of the superintendent to render the medical services was not in law a request of the company, and as a consequence the liability of the company was not shown.

Society Proceedings

COMING MEETINGS

American Ophthalmological Society, New London, Conn., July 11.
Oregon State Medical Association, Los Angeles, Cal., July 10.

LOUISIANA STATE MEDICAL SOCIETY

Thirty-Second Annual Meeting, held at Shreveport, May 30-June 1, 1911

The President, Dr. E. J. Graner, New Orleans, in the Chair

The officers elected were named in The Journal, June 10, 1911, page 1729.

Cerebrospinal Meningitis

Dr. L. G. Bebeuf, New Orleans, reported a case of toxic cerebrospinal meningitis, which was successfully treated with the Murphy drip.

DISCUSSION

Dr. L. R. Debuys, New Orleans: I have not had any experience with the Murphy drip in cases of cerebrospinal meningitis. I rather approve of doing spinal puncture in all suspected cases of cerebrospinal meningitis. I have never seen any harm done by it, and I think we can gain a great deal of knowledge by it in such cases.

Dr. C. C. Bass, New Orleans: The essayist stated that he did not make use of lumbar puncture, and did not give the Flexner serum, but I think it is worthy of emphasis that the Flexner serum for cerebrospinal meningitis seems to be as well established as antitoxin for cases of diphtheria. I do not think anybody should treat a case of meningitis without it. Determine whether or not it is a meningococcic meningitis, and, if so, give the patient the benefit of the serum treatment. The serum treatment is not of service in any other cases except meningococcic meningitis. In the recent outbreak of meningitis that occurred in Mississippi, a striking beneficial effect was obtained in those cases in which the antimeningococcic serum was administered. Not a single patient with meningitis who received the serum died. Three out of four died without the use of the serum, and three out of three lived with the serum. That is in keeping with most of the reports on the use of the Flexner serum.

Dr. J. B. Elliott, New Orleans. In the last three or four cases of meningitis I have seen the spinal column was tapped immediately, and the Flexner serum given promptly. You cannot do any harm by administering the serum; it may do good, and it is my practice to tap the spinal column immediately, and then give the Flexner serum. The Murphy drip is the best thing I know of, and when I get a bad case of any kind, I use the Murphy drip with good black coffee, using 3 ounces in ½ pint of normal salt solution.

Dr. E. Denegre Martin, New Orleans: In children it is unnecessary to run the catheter into the intestines any great distance. Two inches is sufficient, because when the catheter is run into the intestine very far it will coil up in the rectum, and if you keep on pushing it long enough it will come back again. Introduce it 2 or 3 inches into the rectum, and hold it there with adhesive plaster, and it will remain as long as the plaster sticks. As to the drip, the vessel containing the fluid should never be raised more than 2½ or 3 inches above the rectum in the case of infants. If it is, the fluid will not be absorbed. It will cause a reflex action of the bowel, and the whole thing will be expelled.

Acute Otitis in Measles, Diphtheria and Scarlet Fever

Dr. Arthur I. Weil, New Orleans: In scarlet fever, otitis is much more apt to occur late in the disease during the period of desquamation, consequently it is during convalescence that we must be especially on our guard for the signs of beginning otitis. The otitis of scarlet fever is more severe than that accompanying the other two diseases, although the same rule holds good here as in the others, that the virulence of the otitis is proportional to the virulence of the causative disease. The ear complications of diphtheria fall naturally under four heads: 1. Diphtheritic inflammation of the external auditory canal. 2. Affections of the internal ear, usually a nerve deafness, somewhat analogous to postdiphtheritic paralysis of the soft palate, and other neuroses produced by the general toxemia of the disease. 3. Diphtheritic inflammation of the Eustachian tube and middle ear. 4. Acute catarrhal or purulent inflammation of the middle ear without the formation of membrane. This is in no sense different from the otitis caused by scarlet fever or measles. The scarlet fever otitis is the most fulminating and causes more danger to life and hearing. Next in order is diphtheria, and lastly measles. The chief danger to life is caused by extension to the meninges, the brain and thrombosis, with subsequent septicemia and pyemia. The hearing is threatened probably through involvement and necrosis of the internal ear, complete absorption of drum membrane with the ossicles and caries of the surrounding bone. The otitis becomes chronic with constant suppuration and is a menace to the remaining hearing throughout the life of the patient until a radical operation is performed.

The Dyspepsia of Phthisis

Dr. J. A. Storck, New Orleans: The lungs of every young person who suffers from a persistent dyspepsia should be examined. Derangements of digestion are a common accompaniment of tuberculosis, and present one of the greatest difficulties in its treatment. The success of the fight in a given case of tuberculosis depends on the integrity of the digestive system, and therefore it should be given the most careful attention. The management and therapy of the case should deal with the primary disease. A very full rich diet should be insisted on in spite of the dyspeptic complaints. Hansmann has pointed out the importance of examining the empty stomach in the morning for tubercle bacilli, as often they are found when no chest symptoms are manifest, tubercle bacilli having been swallowed during the night. The appetite does not always correspond to the gastric findings. The cases in which free HCl is normal or in excess, are as a rule, free of fever. Motor function is very little impaired in initial stages but is reduced in later stages. In the beginning the secretory power of the stomach is usually increased, often normal, and rarely reduced. In the terminal stages it is always greatly reduced. The dyspepsia of early phthisis belongs chiefly to the group of anemic-enteroptotic dyspepsias. Nausea and regurgitation, which frequently occur after meals, should not be given too much attention. Only when cramplike pain and diarrhea set in should the amount of food be lessened, and the diarrhea properly treated. Constipation is often best corrected for the time being with magnesium sulphate or castor oil. Massage of the stomach and also of the intestines affords considerable relief during the rest cure. Suitable support by adhesive plaster belt or properly fitting abdominal supporter is indicated when ptosis of the viscera exists. Symptoms should be treated as they arise, and indications for acid, iron, belladonna, etc., met. Alcohol should positively be avoided. Almost every case of tuberculosis sooner or later shows some disturbance of the digestive organs. It is understood that the care of these patients is to be that of every well-treated case of tuberculosis of the lungs. Dyspepsia appears more frequently among women than among men. Women are more frequently affected with flatulence and vomiting and men with pain and acidity. The most typical instances of dyspepsia are encountered in that variety of pulmonary tuberculosis which commences insidiously and progresses slowly.

Toxemia of Pregnancy; Its Cause, Nature and Treatment

Drs. O. W. Cosby and R. H. Blackman, Monroe: Nearly all the symptoms incident to pregnancy from simple morning sickness to pernicious vomiting, and eclampsia, are only varying degrees of toxemia. This toxemia is due to suboxidation, or unoxidized substances, principally of the nitrogenous derivative, in the circulation. Urea and uric acid are harmless end products, which can be eliminated as such without trouble, but it is only when the nitrogenous particle is incompletely oxidized, leaving bodies, such as xanthin, hypoxanthin, ammonia, creatin, etc., that toxemia begins. Both the urinary and the autopsy findings show that the toxemia of pregnancy is the same condition as auto-intoxication of the non-pregnant individual. The pregnant woman is more prone to this auto-toxemia because of the increased katabolic activity, more sedentary habits, and because of the increased demands for oxygen on account of its fetus. Oxidation is brought about, governed and controlled by the adrenal system, and the thyroid secretes a fluid which stimulates the adrenal activity, thereby increasing oxidation, as witness the physiological enlargement of the thyroid, in normal pregnancies, to meet the demands on it for increased oxidation, and as shown by Charles Mayo, when this enlargement does not occur, the woman is in danger of eclampsia. The internal secretion of the adrenal is the constituent of the hemoglobin molecule, which carries oxygen to the tissues, and in cases of sub-oxidation or adrenal insufficiency, and amelioration of the condition, and a cessation of symptoms, or an increased adrenal activity, can and is brought about by administering thyroid extract.

Veratrum viride is the very best remedy we have in eclampsia for lessening the irritability of the vasomotor center, lowering vascular tension, and relieving the attack. Chloroform is not safe, on account of its liability to produce degenerative changes in the liver, and morphin is only an artificial remedy, which should never be used when there is any kidney disease, or diuresis is not free. Chloral, and the bromids when used in large enough doses to control the convulsions, act similar to, but are not as desirable as veratrum. Elimination combined with the above means and lessened proteid ingesta are the only rational methods of combating this toxemia. Physiologic saline solution, preceded by venesection in suitable cases, is one of the safest as well as the surest means of preventing eclampsia, during the pre-eclamptic period, as well as controlling and relieving the seizure. It is the duty of the physician in every case of pregnancy in which he expects to act as accoucheur, to inform the patient of some of the dangers incident to pregnancy, to give her full and minute instructions in regard to her diet, exercise, elimination, etc.; also to examine a twenty-four-hour specimen of urine every four weeks during the first six months, and every two weeks after that, not only for albumin but more especially for the total nitrogen, amount of urea, casts, etc., and when evidence is found that elimination is checked, to put the patient on an absolute milk diet, plenty of water and administer thyroid extract to increase the adrenal activity and oxidation. For two years we have used thyroid extract with the elimination measures outlined, in all degrees of toxemia, or adrenal insufficiency, with the most happy results.

A Plea for the Proper Feeding of Infants

Dr. C. H. Rice, New Orleans: I wish to call attention to the new method of percentage feeding. At first, I watched with considerable skepticism the milk formulæ that were written out in the pediatric clinic of New Orleans for the cases of malnutrition; but when the infants showed a gain of 2 to 6 ounces a week, my skepticism vanished, as did the mystery of it. The pediatrists are doing in a careful scientific manner just what the old woman did with her blind instinct. They are supplying in sufficient amounts the food ingredients that these starving infants need. By diluting the milk, or cream, and adding milk sugar they are adjusting the fats, carbohydrates and proteins, according to the weight, age and digestion of each infant. The results obtained in these clinics last summer were excellent. A majority of the infants that remained under observation regained their loss in weight and had no further trouble. Some of the others remained underweight, but managed to live through the hot months without any digestive disturbances. In my own clinic the results obtained by this method have been so satisfactory, so far in excess of those from the old methods that I am convinced that the time has come when all of us who treat children must cast aside our ancient and unprogressive ideas about infant-feeding and adopt that method.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Annals of Surgery, Philadelphia

June

1 Large Intrathoracic Cysts of the Thyroid Causing Dyspnea. W. Martin, New York.
2 *Anesthesia by the Intratracheal Insufflation of Air and Ether. C. A. Elsberg, New York.
3 Laminectomy for Injury and Tumor of the Spinal Cord. G. P. Muller, Philadelphia.
4 *Organoscopy. B. M. Bernheim, Baltimore.
5 Treatment of Chronic Pancreatitis by Pancreatostomy. G. Link, Indianapolis.
6 Acute Hepatitis Simulating Stone in the Common Duct and Liver Abscess. J. W. Churchman, Baltimore.
7 *Rational Treatment of Acute Appendicitis. J. B. Deaver, Philadelphia.
8 *Chronic Appendicitis. E. MacD. Stanton, Schenectady, N. Y.
9 *Surgery of the Ureter. G. E. Brewer, New York.

2. **Intratracheal Insufflation Anesthesia.**—Elsberg has found this anesthesia very useful in operations on the neck, such as thyroidectomy. In the first place the anesthetizer is away from the field of operation. More important, the operator can manipulate the trachea as much as necessary without causing disturbance in breathing or interference with the anesthesia. Nor need he fear a sudden collapse of the trachea in the course of the removal of a large goiter; the presence of the tube in the trachea will guard against such complications. He believes that insufflation anesthesia should be very valuable in the operation of laryngectomy, but he has not yet had the occasion to perform a laryngectomy under insufflation anesthesia. The method of anesthesia is of great value in operations on the tongue and mouth and in operations on the superior and inferior maxilla, in which the buccal cavity or pharynx has to be widely opened. There is no danger of aspiration of blood into the lungs, and tamponade of the larynx is unnecessary. No blood can run down into the trachea. The current of air which is continually flowing upward in the trachea by the side of the tube will blow out all of the blood which tends to run down into the larynx and trachea. The anesthesia should be useful in those operations in which the patient has to be placed flat on the abdomen. Thus, it should be advantageous in those operations on the brain and the spinal cord, such as bilateral suboccipital craniotomy and laminectomy, in which the patient has to be in the prone position and in which the giving of the anesthesia is ordinarily difficult.

4. **Organoscopy.**—Bernheim feels that the results obtained by him with Jacobeus' method of visual inspection of the abdominal organs in two cases were sufficiently encouraging to warrant a further trial.

7. **Acute Appendicitis.**—Deaver says, in concluding his paper, that if there is one fact in the field of medicine which has been demonstrated conclusively, it is that the rational treatment of acute appendicitis is in operation, early and immediate, if possible; late, postponed, or absolutely contra-indicated only by the presence of other conditions which may be complications of the disease itself or entirely independent of it, mere coincidences which render the performance of any operation too hazardous.

8. **Chronic Appendicitis.**—In Stanton's experience the majority of patients suffering from chronic appendicitis give a history of having had one or more attacks of acute abdominal illness, with a sequence of symptoms recognizable as those of an acute appendix attack, namely, sudden severe abdominal pain, usually beginning in the epigastrium or mid-abdomen, accompanied by nausea and vomiting and followed by a period of pain and tenderness in the right lower quadrant. In his experience, further, appendiceal dyspepsia has been characterized by symptoms strikingly analogous to the earliest symptoms of acute appendicitis, namely attacks of epigastric or mid-abdominal pain or distress only rarely accompanied by subjective symptoms referable to the region of the appendicitis. During these attacks the pain or distress is nearly always increased by food intake. Pain confined chiefly to the right lower quadrant and not associated with attacks

of epigastric pain and nausea is seldom due to the appendix, and before making a diagnosis of chronic appendicitis in these cases every other possible condition should be excluded. The majority of our failures have been in patients complaining of right inguinal pain associated with chronic constipation. At operation these patients have presented an unusually long or dilated cecum, usually accompanied by other evidences of enteroptosis. In the future a certain proportion of these patients may be cured by some such operation as that advocated by Wilms, but appendectomy alone does not cure. Unless the diagnosis is absolutely certain, the gall-bladder, stomach and right kidney should be explored, and the possibility of Lane's kink excluded in all cases operated on for chronic appendicitis.

9. **Surgery of Ureter.**—In reviewing the histories of thirty-three cases, Brewer says that the majority of his mistakes in diagnosis were made in cases supposed to be calculus. There were six of these. In three, other lesions were found which were sufficient to account for the symptoms. In the remaining three no lesions were found to account for the symptoms, although an extra-ureteral calcarous body was found in one instance, which gave rise to the shadow in the skiagraph, and in another there was reason to believe that a stone was present at the time of the examination, which passed before the ureter was opened. Of his three other mistakes in diagnosis, two were in mistaking a ureteral calculus for a lesion of the vermiform appendix, and one in mistaking a ureteral calculus for intestinal obstruction. In none of these cases did he have the aid of cystoscopy or radiography. Only one death occurred in the series, and that was a traumatic case which was moribund at the time of admission, and in which nothing was done other than to check the hemorrhage by gauze packing. Of fifteen cases in which the ureter was exposed, opened, and subsequently sutured, all healed without infection and without leakage of urine. The same may be stated in regard to two cases in which a ureteral calculus was removed through an opening in the bladder.

16. **Rabies in Philippine Islands.**—The prophylactic treatment against rabies, advocated by Ruediger, consists of twenty-five subcutaneous injections, one of which is given each day, hence the course of treatment covers twenty-five days. Injections should be made in the back or in the abdominal wall, not in the arms or legs. Material for injection is furnished by the Bureau of Science in Manila, in bulbs containing one dose each; the bulbs are numbered from 1 to 25, indicating the order in which they are to be used. On the first day of treatment inject the contents of Bulb 1; on the second day inject the contents of Bulb 2, and so on until the twenty-five doses have been given.

New Mexico Medical Journal, Las Cruces

May

10 Cases of Intestinal Obstruction. J. Vance, El Paso, Texas.
11 Influence of Altitude on Heart Disease. S. D. Swope, Deming.
12 Modern Practice. M. D. Walsh, Pena Blanca.
13 Acute Suppuration of the Middle Ear. D. D. Swearingen, Clovis.
14 Diagnosis of Cancer of Stomach. E. C. Prentiss, El Paso, Texas.
15 Lymphatic Leukemia. R. E. McBride, Las Cruces.

Bulletin of the Manila Medical Society, Manila, P. I.

April

16 *Rabies in the Philippine Islands and Method Available for Controlling It. E. H. Ruediger, Manila.
17 *Five Hundred Cases of Peritonitis. H. Schmid, Manila.
18 Technic of the Surgical Clinic of the Philippine General Hospital, Manila. J. R. McDill and H. E. Schiffbauer, Manila.

17. **Peritonitis.**—The material which is the basis of Schmid's paper consists of all cases of diffuse peritonitis operated in Koerse's clinic in Berlin, between 1890 and 1910. During this time they had among 1,258 perityphlitis cases, 22.2 per cent. peritonitis. This percentage may appear very high, but we must not forget that during the first years of the compilation of the statistics, the operation of perityphlitis was practically unknown. To find out the best time for the operation, Schmid compiled the results of the days on which the operation had been performed after the beginning of the disease. On the first day of disease, operated on 29, recovered 26, fatal 3, mortality 10.3 per cent.; on the second day of disease, operated on 89, recovered 70, fatal 19, mortality 21.3 per cent.; on the third day of disease, operated on 67, recovered 46, fatal 21, mortality 31.3 per cent.; on the fourth day of disease, operated on 174, recovered 71, fatal 103, mortality 59.1 per cent. This shows that the mortality increases the longer the duration of the disease. The conclusion is obvious that every appendicitis which shows only the slightest symptoms of peritonitis should be operated on. The technic of the operation must be adapted to the cause of the peritonitis. In most of the cases, Schmid says, it will be possible to determine diagnostically the point of origin of the peritonitis, and under these circumstances one must cut so as to reach this point at once. His method is: In appendicitis due to peritonitis make a long cut following the margin of the os ilei, dissecting the muscles sharply with the knife. After the removal of the appendix all parts of the peritoneal cavity are carefully examined and all adhesions carefully separated. Now wash with warm normal salt solution and place a drain in the place of the resected appendix. Very often the question has been discussed whether it is advisable to wash the peritoneal cavity or not. Schmid has compared the mortality of those cases in which they cleansed the peritoneum with absorbent gauze with those in which they irrigated. The difference is very small. In the washed cases there was 40 per cent. and in the others 42 per cent. mortality. However, he qualifies that it may be due to the fact that they always applied the irrigation in more severe cases while in the mild ones the patients were sponged. Excluding the patients treated within the first three days the mortality is 55.4 per cent. for the irrigated and 69.2 per cent. for the sponged ones. Still greater is the difference in children. The cases of peritonitis in children irrigated gave a mortality of 40.5 per cent., the sponged ones, 68.7 per cent. Of ten patients with perforated stomach ulcer, operated after the first day, only one recovered. Patients operated during the first twelve to twenty-four hours gave a mortality of 25 per cent., while no patients died if operated within the first twelve hours. Generally speaking, Schmid believes that the prognosis of peritonitis caused by a perforation in the digestive tract is worse the lower the perforation. Perforation of an infected gall-bladder gives a mortality of 50 per cent. He regards as the main reason for this high mortality the fact that patients with a perforated gall-bladder are usually weakened by long sickness. The cases of peritonitis resulting from the female sexual organs gave the high mortality of 64.7 per cent. The explanation of this remarkably high figure is said to be the fact that only the most severe cases of this class of peritonitis are operated by the surgeon, most of them being treated expectantly. Schmid does not believe in operating on puerperal peritonitis, because general sepsis seems to be the danger.

Journal of the Kansas Medical Society, Kansas City

May

19 Injury to the Eye. H. W. Woodruff, Joliet, Ill.
20 Eyes and Ears of School Children. H. B. Caffet, Pittsburg.
21 Varicose Veins. N. C. Morrow, Altamont.
22 Diagnosis and Treatment of Ulcer of Stomach. P. T. Bohan, Kansas City, Mo.
23 Post-Operative Thrombosis and Neuritis. S. Cooper, Fort Smith, Ark.
24 Ankylostomiasis. F. W. Tretbar, Stafford.

American Journal of Diseases of Children, Chicago

June

25 *[illegible] tany. H. B. Wilcox, New York.
26 *[illegible] fluenzal Meningitis. W. V. Brem and [illegible] Canal Zone.
27 [illegible]. Kolmer, Philadelphia.

25. **Diagnosis of Infantile Tetany.**—In Wilcox's series of 318 electrical tests on 118 infants, 10, or 3.1 per cent., gave evidence of extreme or kathodal hyperirritability. Of the middle grade or anodal irritability giving response to kathodal closure and anodal closure alone below 5 milliamperes, there were 101, or 31.8 per cent. With kathodal closure and anodal opening alone present, below 5 milliamperes, he found fifty, or 16.6 per cent. With both kathodal closure, anodal closure and anodal opening, less than 5 milliamperes, there were forty, or 12 per cent. The occurrence, then, in his series of abnormal reaction or increased electrical response according to Esch-

erich's definition was 193, or 61 per cent. Of these cases of anodal or partial hyperirritability none developed other symptoms of tetany under observation. The incidence of partial hyperirritability in children under 5 pounds was 16 per cent.; 5 to 10 pounds, 22 per cent.; 10 pounds and over, 30 per cent. With reference to change in weight or, as this is its best index, the general condition of the subjects, it was found that of sixty children losing weight, 25 per cent. showed partial hyperirritability; of the twelve with stationary weight, 16 per cent. showed partial hyperirritability; and of the twenty-seven gaining weight, 37 per cent. showed partial hyperirritability. During the period of this work there were fifty-seven infants on skim-milk mixtures, twenty-one on condensed milk, twenty-three on butter-milk, eighteen on Finkelstein's "Eiweismilch," fourteen on whole-milk mixtures and twenty-four were on the breast. As it has been shown that tetany occurred more frequently in the artificially than in breast-fed children, comparisons between the reactions of these classes were made. In the breast-fed the average of kathodal closure, 3.2 in thirty-eight tests; anodal closure, 4 in twenty-four tests; anodal opening, 4 in seven tests; and kathodal opening, 2.4 in one test, were practically the same as those for artificial feeding, which were: kathodal closure, 2.8 in 172 tests; anodal closure, 3 in 123 tests; anodal opending, 4 in sixty tests; and kathodal opening, 4 in nine tests. Taking the number of breast and artificially fed children who showed distinct hyperirritability, it appears that there was none of the ten former, but 24 per cent. of the 108 of the latter class. It must be added, however, that the cases were not exclusively on either type of nourishment for a great length of time before testing. Of thirty-eight instances of good gastric digestion 30 per cent. showed hyperirritability; of fifty-eight instances of poor gastric digestion 30 per cent. showed hyperirritability; of twenty-seven instances of good intestinal digestion 33 per cent. showed hyperirritability; of seventy-seven instances of poor intestinal digestion 24 per cent. showed hyperirritability.

26. **Hexamethylenamin in Influenzal Meningitis.**—Two patients, 18 and 23 months old respectively, with meningitis caused by a bacillus culturally like *B. influenza* were treated by Brem and Zeiler with large doses of hexamethylenamin without apparent benefit. Both infections terminated fatally. Late in the course of the disease in the second patient, while hexamethylenamin was being given, a needle was inserted into the spinal canal in the lumbar region and was left in situ in the hope of securing permanent drainage. Immediately afterward the temperature dropped practically to normal and remained normal for about twenty-four hours, when it rose again. It was found that the needle had worked out and drainage had ceased. The authors state that the combination of permanent drainage and hexamethylenamin treatment may be of value in treating those cases of meningitis for which we have no specific treatment.

27. **Blood Examination in Pertussis.**—Out of the thirty-seven cases of cough which could not be diagnosed clinically from pertussis in the catarrhal stage, observed by Kolmer, sixteen proved later to be pertussis. Of these, thirteen, or 81.25 per cent., had been diagnosed correctly by means of the blood examination. Three, or 18.75 per cent., were given an incorrect diagnosis. Of the twenty-one cases proving not to be pertussis, fifteen, or 71.4 per cent., were given the correct, and six, or 28.6 per cent., the incorrect diagnosis. Kolmer cautions that the presence of secondary infection which may by itself produce leukocytosis with a relative or actual decrease of the small lymphocytes, will lead to error. In such cases it is better to be guided by the total number of leukocytic elements in the c.c. of blood rather than by percentages.

Yale Medical Journal, New Haven, Conn.

April

28 The Roentgen-Ray as an Adjuvant in the Treatment of Cancer. C. E. Skinner, New Haven, Conn.
29 Treatment of Youthful Tendencies to Functional Nervous Disorders. C. A. McKendree, Cromwell, Conn.
30 Functional Ear Tests. C. Weidner, Hartford, Conn.

Albany Medical Annals, Albany, N. Y.

June

31 Discovery of the Tubercle Bacillus. A. T. Laird, Albany, N. Y.
32 Clinical Experiences with the Wassermann-Noguchi Test. J. N. Vander Veer, Albany, N. Y.
33 Surgical Sequels of Acute Anterior Poliomyelitis. J. B. Garlick, Schenectady, N. Y.
34 *Electrical Remedies for High Arterial Tension. H. W. Van Allen, Springfield, Mass.
35 Right-Handedness and Left-Handedness. I. Hartshorne, Poughkeepsie, N. Y.

34. **Electrical Remedies for High Arterial Tension.**—Allen claims that high frequency currents, as auto-condensation, reduce blood-pressure by removing the exciting cause; prevent auto-intoxication, and relieve diabetic conditions. Fulguration removes moles and small questionable epithelioma and can be used in the bladder. Heat penetration causes increase of heat at a distance from the point of application and therefore relieves in joint conditions, contusions and non-malignant exudates.

Journal of the South Carolina Medical Association, Charleston

May

36 *Imperative Necessity for Proper Drainage of Our Water Courses and Low Lands. J. H. McIntosh, Columbia.
37 Treatment of Lobar Pneumonia. J. D. Wilson, Lowndesville.

36. Abstracted in The Journal, June 3, 1911, p. 1678.

Wisconsin Medical Journal, Milwaukee

May

38 Early Diagnosis of Cancer. F. G. Connell, Oshkosh.
39 Aneurism of Descending Thoracic Aorta. J. F. Smith, Wausau.
40 Plaster Spica in High Fractures of Femur. C. H. Lemon, Milwaukee.
41 *Olive Oil in Treatment of Ulcer of Stomach. O. Lotz, Milwaukee.
42 *Relation Between Splanchnoptosis and Pulmonary Tuberculosis. W. Becker, Milwaukee.

41. ***Olive Oil in Treatment of Gastric Ulcer.***—Two patients with intractable recurrent gastric ulcer, which seemed to have as a more or less exciting factor a marked hyperacidity, apparently recovered from the acute condition under the use of rest, dietetic measures, bismuth and alkalies, but so soon as these were discontinued the old symptoms of hyperacidity would return, while the general nutritive condition of the patient was not much improved. Lotz then resorted to the use of olive oil before meals. The results in both cases were exceptionally gratifying, and the oil treatment was used by Lotz in all cases of gastric ulcer and hyperacidity, only to find out the truth of the old story that after all the patient must be treated, and not so much the condition. There is no doubt as far as the diagnosis is concerned, as all the cardinal symptoms of gastric ulcer, characteristic pain, tenderness, vomiting and hemorrhage were present. It has been Lotz' experience that a large majority of the patients suffering from hyperacidity and chronic ulcer of the stomach give a history of a gradual loss in weight, extending over a long period of time, and frequently present themselves in a nutritional condition far below par. Besides this, a history of chronic constipation is in this class of cases very conspicuous, while signs of secondary anemia are likewise of common occurrence. Without exception all of the ulcer patients, under the use of pure olive oil, a liberal diet, and somewhat regulated mode of life, gained rapidly and steadily in weight, some of the signs of anemia disappeared, while the constipation ceased to be an annoying factor. Furthermore, up to the time of writing, so long as these patients have retained their normal weight, no symptoms of gastric hyperacidity have appeared. Taking these results as a working basis, Lotz asks, could it not be possible that the persistent hyperacidity, which has at the present time an unknown etiology, is due to the presence of a so-called vicious circle, the hyperacidity preventing normal digestion and assimilation, with chronic constipation, anemia and poor nutrition as resulting conditions, while these some conditions in their turn act as exciting factors in maintaining the hyperacidity. The continued use of olive oil before meals, Lotz believes, is an effective method of breaking into the vicious circle. By holding in check the excessive secretions of acids for the time being, the oil permits of a liberal diet as soon as pain and tenderness have more or less disappeared.

It of itself has a high nutritive value, and finally, with very many patients, the olive oil acts sufficiently as a laxative to keep the bowels in a normal, regular condition.

42. **Splanchnoptosis and Phthisis.**—Becker states that the phthisical habit and asthenia universalis (splanchnoptosis) are identical. Hence the phthisical habit is not a specific phthisical inheritance. Stiller's costal stigma is a constant concomitant of the same, indicating its presence, but not its degree. Stiller's costal stigma, being a congenital defect, and present in earliest infancy, can, therefore, be considered a diagnostic feature of the habitus phthisicus (so-called) long before phthisis has developed. Diagnosis of asthenia universalis offers great opportunities of combating the congenital disposition to tuberculosis.

Northwest Medicine, Seattle, Wash.

May

43 Value of Indican and Bile Tests in Diagnosis of Abdominal Diseases. G. G. Baar, Portland, Ore.
44 Consideration and Importance of Early Recognition of Erysipelas: Mistakes in Diagnosis. H. E. Robinson, American Fork, Utah.
45 Eyes and Ears of School Children. F. A. Kiehle, Portland, Ore.
46 Middle-Ear Disease in Children. N. P. Wood, Seattle, Wash.
47 Medical Inspection of Schools. N. L. Thompson, Everett, Wash.
48 Follies, Legal and Otherwise, Concerning Our Medical Practitioners. J. C. Robison, Cedar City, Utah.
49 Pemphigus. L. Buck, Portland, Ore.
50 Sterility. D. F. Donnelly, Portland, Ore.

St. Paul Medical Journal

June

51 Septic Endocarditis. T. W. Stumm, St. Paul.
52 Recent Progress in Pediatrics Relative to Digestive Tract. W. R. Ramsey, St. Paul.
53 *Magnesium Sulphate in Tetanus. C. J. Holman, Mankato, Minn.

53. **Magnesium Sulphate in Tetanus.**—Holman reports one case in which the injection of a 12.5 to 25 per cent. solution of magnesium sulphate at various intervals in doses of from 10 to 12 c.c. resulted in recovery.

Detroit Medical Journal

May

54 Pathology of the Derivatives of the Primitive Foregut in the Living. G. V. A. Brown, Detroit.
55 Treatment of Chronic Constipation. L. J. Hirschman, Detroit.

Archives of Diagnosis, New York

April

56 Alleged Pulmonary Tuberculosis; Differential Diagnosis. A. Jacobi, New York.
57 Tuberculous Toxemia. A. C. Wieder, Chicago.
58 Diagnosis of Some Uncommon Intra-Abdominal Conditions in Early Life. G. R. Pisek, New York.
59 The Cellulose Test in the Diagnosis of Ulcer of Stomach. H. W. Soper, St. Louis.
60 *Value of the Glycyltryptophan Test. G. A. Friedman, New York.
61 *Diagnosis of Fibrillation of the Auricle. L. F. Bishop, New York.
62 Diagnosis of the Extra-Genital Chancre. W. S. Gottheil, New York.
63 *Causation of High Blood-Pressure in Cases of Auto-Intoxication. H. B. Hiatt, Ashboro, N. C.
64 *Exophthalmos, A Common Symptom of Chronic Bright's Disease. H. C. Gordinier, Troy, N. Y.

60. **The Glycyltryptophan Test.**—Friedman concludes that even though the glycyltryptophan test was positive in many of his cases of gastric cancer, it cannot be looked on as a reaction pathognomonic of the disease.

61. **Fibrillation of Auricle.**—Attention is called by Bishop to auricular fibrillation, a condition which, he says, can be diagnosed with as much certainty without apparatus as can many other clinical conditions, but tracings afford the complete proof.

63. **Blood-Pressure and Auto-Intoxication.**—The belief of Hiatt is that the rise in blood-pressure in cases of auto-intoxication is caused primarily by the action of these poisons on the smaller ganglionic endings of the splanchnic nerves in the vessel walls, and these poisons have a selective action for the vasoconstrictor nerves. The first effect of this action is a rise in the blood-pressure of the portal vessels. The connection of the nerves supplying these vessels is such that there is a general reaction. An efferent impulse is sent out to the entire vascular system from the reflex centers located in the spinal cord. This will result in acceleration of the heart beat, both through the sympathetic ganglia and the accelerator nerves of the heart. Another factor in the faster beat is local, and is dependent on primary irritation of the heart. Thus we have a faster beat and we have an increased peripheral resistance; these two factors will raise the pressure to an extent that will require a more forceful beat to overcome it. This more forceful beat in the presence of the conditions mentioned will cause a rise in pressure and thus a vicious circle is established.

64. **Exophthalmos a Symptom of Bright's Disease.**—The common occurrence of exophthalmos and the associated external ocular signs in chronic nephritis, are by Gordinier considered important signs in chronic Bright's disease. During the past year he has studied twenty-eight cases of chronic nephritis, two of the chronic parenchymatous type and twenty-six of the chronic interstitial form. Of this number fourteen presented exophthalmos of varying degrees, together with one or more of the associated ocular manifestations. The two cases of large white kidneys presented a marked degree of exophthalmos. They were observed late in the disease suffering with marked renal and cardiac insufficiency and uremia. The cases of the chronic interstitial type of nephritis—twenty-six in number—all presented hypertension, left-sided, and occasionally right-sided cardiac enlargement, with accentuation of the aortic and occasionally of the pulmonic second sounds and the urinary findings that exist in this type of disease. Of this number twelve presented exophthalmos, von Graefe's and Stellwag's sign, and seven the sign of Moebius. In three cases the pupils were irregular. In five cases the exophthalmos seemed more marked on one or other side. In two of the cases the enlargement was greater on the left side, and in three on the right. In none of the cases that have come under his observation was the thyroid gland visible or palpable. The exophthalmos, although most marked in the advanced cases suffering from serious toxemic manifestations, was distinctly visible in those of a less advanced type with fairly compensated hearts and without distinct uremic manifestations. In five of the twelve cases with exophthalmos, albuminuric retinitis was present, and in six cases, arteriosclerotic changes in the vessels of the retinæ with hemorrhages were observed. In none of the cases was tachycardia a prominent symptom. Gordinier believes that the most probable explanation of the exophthalmos and associated ocular signs in chronic nephritis (von Graefe, Stellwag and Moebius) is an irritation of the cervical sympathetic system of fibers by toxins floating in the blood-stream the result of a chronic renal insufficiency.

Denver Medical Times and Utah Medical Journal

May

65 Inflammations of the Conjunctiva and Cornea of Tubercular Origin. E. O. Sisson, Denver, Colo.
66 A Case of Suppurating Appendicitis with Subnormal Temperature and Slow Pulse. H. S. Shafer, Denver.
67 Baptisin. H. H. Redfield, Chicago.
68 The Serum Reaction for Syphilis. S. Simon, Denver.
69 A Glowing Tribute to the Stimulating Properties of Alcohol. J. M. Shaller, Denver.
70 Medicolegal. E. S. McKee, Cincinnati.
71 Nervous Symptoms of Arteriosclerosis and the Removal of the State Causing Them. T. A. Williams, Washington, D. C.
72 *The Medical Profession Must Change Its Tactics. W. J. Robinson, New York.
73 The Police Power in the Light of Constitutional Inhibitions. E. C. Ashton, Salt Lake City, Utah.

June

74 *A Few Odd Things Found at Operations. J. M. Perkins, Denver.
75 How Some Oriental Countries Dispose of Their Dead. C. F. Shollenberger, Denver.
76 *Rubberized Open Meshed Net as a Retaining Dressing in Skin-Grafting. C. E. Tennant, Denver.
77 Reconsideration of Prostate Gland. W. M. Spitzer, Denver.
78 Nitrous Oxid and Oxygen—General Anesthetic. J. W. Seybold, Denver.
79 Nuptial [illegible] and Its Remedy. G. H. Bogart, [illegible]
80 Th[illegible] Diagnosis. E. S. Budge, Logan, [illegible]

72. Also published in the *Detroit Medical Journal*, February, 1911, and in THE JOURNAL, Jan. 14, 1911, p. 138.

74. **A Few Odd Things Found at Operations.**—The first of Perkins' patients operated on for strangulated bowel had been

operated three months previous for appendicitis. On opening the abdomen Perkins found large and small bowel both caught under a band of bowel. On tracing this band up he found it came to a point where it adhered to the mesentery. It proved to be a blind pouch coming off from the small intestine, of the same coating and caliber as the intestine. In the second case, that of a patient operated on for appendicitis, Perkins found a sloughed hole in the appendix about the middle, with two hard concretions of fecal matter about the size of peas, by the opening in the free abdominal cavity, also pus in the free abdominal cavity; and crawling across the ascending colon he found a worm of the lumbricoid variety, which had escaped through the hole into the abdominal cavity. In the third case, a patient operated on for chronic appendicitis, there was a history of having a severe attack of pain some weeks before, which was diagnosed by the family physician as gall-stone colic. After removing the appendix, Perkins found it contained a small gall-stone with polished edges. In the fourth case the appendix contained a single grape seed.

76. **Rubberized Net as a Dressing in Skin-Grafting.**—After all the grafts have been placed and are ready to be fixed in position, Tennant applies a loose meshed bandage which has previously been prepared by immersing for twelve hours in a solution of rubber-tire cement diluted with benzine or gasoline, then dried and sterilized by boiling. The approximate end of the bandage is first tacked to the skin in several places with adhesive tape to avoid slipping of the bandage while it is being wound about the limb. Two or three complete laps are usually made, the ordinary gauze and cotton dressings applied, and the part enclosed in the bandage. The outer dressings may be removed at any time without disturbing the grafts or granulations underneath, and since the dressing is porous and the fabric impervious, it permits of the free escape of discharges, which may be washed from time to time without disturbing the surface underneath. This net remains in position until the grafts are thoroughly healed—from ten days to two weeks. If necessary or desired, windows may be cut away from certain portions of the dressing without interfering with its effectiveness or disturbing the grafts.

81. **Examination in Heart and Blood-Vessel Diseases.**—Bishop claims that it may be said, in general, that the indications disclosed are nearly always the regulation of cardiac functions, rather than stimulation. Weakness indicates either a depressed activity of the heart, which may be, on the whole, conservative, or exhaustion of the reserve of the heart, which renders stimulation a desperate resource. An exhausted heart needs rest, not stimulation. It may be necessary to overcome a loss of tonicity in the heart muscle by digitalis, but that is not stimulation in the true sense, and in some cases of chronic heart disease it may be best to continue its use almost indefinitely, but, where possible, improvement of condition by proper diet, exercise, and conservation of energy should replace drug treatment. The history of the patient could influence judgment much in the advice one could give him, as would also the patient's personality and the measure of his resources.

83. **Stethoscopic Examinations.**—Abrahams, in his defense of the stethoscope, says that while all other instruments may come and go, the stethoscope will forever remain the handiest, readiest and most trustworthy tool of the work-a-day practitioner.

New York Medical Journal

June 10

81 *A Review of Methods of Examination in Heart and Blood-Vessel Diseases. L. F. Bishop, New York.
82 A Polygraphic Machine, Recording Automatically. T. E. Satterthwaite, New York.
83 *Stethoscopic Examinations. R. Abrahams, New York.
84 *Circulatory Disturbances of Mesenteric Blood-Vessels. H. D. Collins, New York.
85 Radiographic Examination of the Gastro-Intestinal Tract. R. H. Boggs, Pittsburg, Pa.
86 *Destruction of Surface and Cavity Neoplasms by Desiccation. W. L. Clark, Philadelphia.
87 Diseases of Occupation. M. Korshet, Passaic, N. J.
88 Involvement of Trachea, Lungs and Pleura in Grippe. R. E. Coughlin, Brooklyn, N. Y.
89 Kidney Infections of Pregnancy. L. Louria, Brooklyn, N. Y.

June 17

90 Prescriptions Old and New. J. J. Walsh, New York, and J. P. Walsh, Philadelphia.
91 Twilight Talks with the Doctor. G. F. Butler, Chicago.
92 Effects of Certain Chemicals on the Type of Tissue, Resulting from Chronic Irritation. G. L. Rohdenburg and F. D. Bullock, New York.
93 An Obscure Case of Miliary Tuberculosis (Pulmonic Type) Diagnosticated by the Roentgen-Ray. G. Rosenbaum, Philadelphia.
94 Mortality from Venereal Diseases. H. A. Brown, Washington, D. C.
95 Side Lights on the Social Peril. M. Glasgow, New York.
96 *Foramitti's "Tubilization" Method of Nerve Suture. G. Torrance, Birmingham, Ala.
97 Rupture of the Intestine from a Blow on the Abdomen. H. A. Royster, Raleigh, N. C.
98 Amygdalotomy or Amygdalectomy. M. Lubman, New York.

84. **Disturbances of Mesenteric Vessels.**—Circulatory disturbances of the blood-supply of the small intestine that present themselves to the surgeon, are usually of such a character as ultimately to produce gangrene of the gut. Among these we have injury to the mesenteric vessels by trauma, constriction of the vessels by volvulus, intussusception, strangulated hernia, etc. The conditions present such a train of symptoms that diagnosis may frequently be made and surgical interference often check the evil before it is too late, and thus the parts be restored to normal, or what amounts to the same thing, a cure effected by resection. The principal symptoms are sudden pain of a marked degree, abdominal rigidity and tenderness, fever, either constipation of severity or stools mixed with blood. Hiccough is often present, and so is leukocytosis of high count. Another symptom, on which much stress may be laid, is a doughy sensation in that part of the abdomen overlying the swollen gut; this doughy area moves about as the position of the gut is changed. Later on, the gangrene produces a septic peritonitis with its marked symptoms. The treatment is obvious; the prognosis depends on the amount of gut to be resected and the condition of the patient. In lieu of a better name Collins has called this condition intestinal apoplexy. He reports three cases.

86. **Destruction of Surface and Cavity Neoplasms by Desiccation.**—The object of Clark's paper is to show a means whereby tissue may be destroyed by rapid depletion of its fluid element. The idea is to produce, control and sustain a degree of heat sufficient to cause rapid desiccation of the part to be treated, sterilizing and converting it into an inert mass. He says that a current from a static machine of large output with properly attuned accessories, when applied with correct technic and care is capable of producing a superficial or a deep destruction of tissue by desiccation, or rapid depletion of its fluid element, which breaks up and disintegrates the cells. It has sterilizing, deodorant, styptic, penetrating and stimulating properties. This specialized current has no particular affinity for abnormal tissue over the normal, but it is a simple matter to keep the destruction well within bounds on account of refinement of control. It is operative in all accessible lesions in which destruction is desirable, and works from without inward. Living tissue is destroyed by this means almost as readily as dead tissue (raw meat). The rapidity of action appears to be directly proportionate to the density of the tissue. Clark has tried the method on 317 lesions and is very enthusiastic over the results.

96. **Foramitti's "Tubilization" Method of Nerve Suture.**—Following a traumatic section of the musculo-spiral nerve, Torrance's patient developed wrist drop with the hand drawn toward the radial side; pronation and supination only slightly affected; the ring and little finger were flexed on the palm and the other fingers were partially flexed; had lost all power of extension of the thumb; complete loss of sensation in the thumb and index finger and extending up to the wrist. Six months after the injury the nerve was exposed and found to be severed just above where it divides into the radial and interosseous, so that the ends were not widely separated and were caught in the scar tissues of the wound; each end showed a bulb formation of the nerve and scar tissues; these were excised and the nerve terminals sutured together with fine catgut in an absorbable tube prepared from the artery of a cow after Foramitti's method, slightly modified; good apposition was obtained. The wound was closed without drainage and a cast was applied with the arm at right angles. When seen a month after the operation the wound was perfectly healed and the patient had regained sensation in the hand, except in a narrow strip across the thumb at the base

of the nail, and she could extend the fingers to a right angle with the palm.

She was lost sight of for more than a year, when she reported that the numbness in the thumb had disappeared in about nine months and that the arm and hand were perfectly normal at the end of a year.

Medical Fortnightly, St. Louis

May 25

99 *Treatment of Patients Desperately Ill in Consequence of Accident (Shock, Hemorrhage and Infection). C. E. Bowers, Wichita, Kan.
100 One Side of a True Analogy Largely Lost Sight of. E. E. Clark, Danville, Ill.
101 Tubercular-Phobia. C. Pope, Louisville, Ky.
102 Typho-Bacillosis. W. F. Waugh, Chicago.
103 In the Twilight. C. E. Warren, North Easton, Mass.

99. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1676.

Medical Record, New York

June 10

104 *Stretching of the Pylorus in Benign Stenosis. M. Einhorn, New York.
105 *Pollution of Harbor Water Used in Free Floating Baths. L. R. Williams, New York.
106 *"Carriers" in Relation to the Spread of Diphtheria. E. C. Hill, U. S. Army.
107 *Acute Psychosis Due to Belladonna Poisoning. M. A. Starr, New York.
108 *Possible Causes of Failure Following Use of Bacterial Vaccines and Antiserum. H. E. Plummer, New York.
109 Stokes-Adams Disease; Report of Cases. J. C. Johnston, McAlester, Okla.
110 *Neglected Phase of Prevention of Summer Gastro-Enteric Disease in Infants. Le G. Kerr, Brooklyn, N. Y.
111 Heart Displacement in Pulmonary Tuberculosis. H. Greeley, Brooklyn, N. Y.

104. Abstracted in THE JOURNAL, May 27, 1911, p. 1607.

105. **Pollution of Harbor Water.**—While bathing in floating baths and in other contaminated waters it has been shown that water is taken into the mouth. The casual bather, therefore, runs a risk of receiving typhoid bacilli into his alimentary canal by bathing and swimming, and the risk of the constant bather is increased. A thorough study of the floating baths of New York leads Williams to draw the following conclusions: There are a large number of people in the metropolitan district constantly ill of specific diseases. The discharges of many of these patients containing specific disease-causing bacteria are emptied undisinfected into the sewage. Some of these bacteria, notably the typhoid bacillus, may live for days in sewage and sea water. Other bacteria causing specific diseases may live in sewage and sea water, though less is known about them. There is danger in bathing in the harbor waters. The floating baths have but little cleansing value and the water is unwholesome for bathing purposes. They may be refreshing to some and give pleasure to thousands, some of whom learn to swim. Floating particles of sewage enter many of the baths even though they are situated 500 feet or more from sewer outlet. The quality of the water adjacent to the shores of Manhattan and Brooklyn in the East and Hudson Rivers and the Harlem River is such that it is unsuitable for bathing purposes even though it were possible for the baths to be so situated and protected that floating particles of sewage did not enter the floating baths. This water is constantly diminished in oxygen, contains large numbers of bacteria, among which are colon bacilli in 0.01 to 0.001 of a c.c. of water. While bathing in these waters it is hardly possible to prevent water from entering the mouth and nasal passages and also the mucous membrane of the eye, and bathing in such water is a constant source of infection.

106. **Spread of Diphtheria.**—It is held by Hill that carriers, missed cases and atypical and undiagnosed cases of diphtheria must be considered as of as much more importance in the spread of the disease than fomites. House disinfection and quarantining healthy as well as sick inmates of a household is an unscientific method of controlling epidemics if no attention is paid to carriers. A rational use of antitoxin, i. e., sufficient dosage at frequent intervals, will, undoubtedly, greatly reduce the present high death-rate from diphtheria.

107. **Acute Psychoses Due to Belladonna Poisoning.**—Two cases of belladonna poisoning are reported by Starr which did not present the usual symptoms but presented a state of mental excitement most unusual and interesting. He says that the sudden development of illusions, hallucinations and delusions in a previously healthy person should always awaken suspicion of a toxic psychosis.

110. **Prevention of Gastro-Enteric Disease in Infants.**—The time to commence treatment of the summer diarrheas of infants, according to Kerr, is in the late spring or at the latest the early summer. Gastro-enteric disease, as it is expressed in infants and young children, is not always an acute process. In fact, although it appears as an acute condition, it is uncommonly such, and careful history-taking will almost invariably reveal the fact that the acute process is one that is developed on a soil which has been long prepared for it. Thus the prevention of digestive disturbances is the largest factor in the limitation and prevention of acute gastro-enteric disease.

Therapeutic Gazette, Detroit, Mich.

May

112 Diagnosis of Facial Pains from Those of Tic-Douloureux and Their Treatment by Alcoholic Injection. T. H. Weisenburg, Philadelphia.
113 What Cases of Constipation Are Amenable to Surgical Treatment? J. G. Clark, Philadelphia.
114 Infantile Pyloric Stenosis and Infantile Spasmodic Pyloric Stenosis. A. L. Hertel, St. Louis.
115 Diagnosis and Treatment of Tuberculous Lesions in the Upper Respiratory Tract. G. B. Wood, Philadelphia.

Boston Medical and Surgical Journal

June 15

116 Obstetrics in General Practice. A. Worcester, Waltham, Mass.
117 *Hexamethylenamin as a Possible Preventive of Pneumococcus Empyema. F. C. Shattuck, Boston.
118 *"Fibrositis" as a Cause of Chronic Hypertrophic Spondylitis; A Heretofore Undescribed Sign in Intestinal Auto-Intoxication. N. S. Yawger, Philadelphia.
119 *Treatment of Gastric Hyperacidity with Hydrogen Peroxid. G. W. Hall, Boston.
120 A Case of Vertigo Cured by Treatment of the Eustachian Tube. E. M. Holmes, Boston.
121 A Case of Nerve-Deafness Due to the Toxemia of Diabetes. W. H. Merrill, Lawrence, Mass.
122 Lateral Deviations of the External Nose. A. Coolidge, Boston.
123 Plaster Casting from Life to Show External Deformities of the Nose Before and After Correction. I. D. Kerr, Boston.

117. **Hexamethylenamin and Pneumococcus Empyema.**—From March 1, 1910, to March 1, 1911, fifty-nine cases of lobar pneumonia were treated with hexamethylenamin in the medical wards of the Massachusetts Hospital. This number includes only cases in which the diagnosis seemed assured. The drug was given as soon as the diagnosis was made, and the dose was 10 gr. three times a day, continued until death or well into convalescence. In three cases of young children the dose was proportionately less. The duration of illness before the drug was given varied from one to sixteen days, averaging five and one-half days. The duration of the hexamethylenamin treatment averaged twelve days. Three of these cases developed empyema. During the same period, there were forty-six cases of lobar pneumonia treated without hexamethylenamin. Three or four of these were not given the drug because moribund when brought to the hospital, and in one the pneumonia was a terminal event in chronic nephritis. In general, however, the cases were of the same class as those comprising the hexamethylenamin series. There was no selection of cases for the treatment. Of this number only one developed empyema. In the preceding year, March, 1909, to 1910, of 142 cases of lobar pneumonia without hexamethylenamin, three developed empyema. Excepting in one doubtful case, no urinary disturbance could be attributed to the hexamethylenamin, although the average finding of albumin and casts was higher in the hexamethylenamin cases than in the others. Pericarditis, which complicated 4 or 5 per cent. of the non-hexamethylenamin cases in both years, was not observed in the hexamethylenamin series. The same is true of otitis media, which occurred in 3 to 4 per cent. of the cases not under the drug.

The mortality of cases in the hexamethylenamin series (20 per cent.) is a little lower than in the other series (25 per cent. in 1909 and 26 per cent. in 1910); but not counting the cases which did not receive hexamethylenamin because they were moribund, the mortality of the hexamethylenamin series would be as great or a little greater than that of the others.

Shattuck believes that his results are not encouraging to the hope that in hexamethylenamin we may have a preventive for empyema, one of the most frequent, and, from the point of view of the comfort of the patient, the most serious sequelæ of pneumonia. They suggest, however, that this drug may be a preventive of pericarditis and otitis media. Of course, it may be a mere coincidence that neither of these complications developed in the hexamethylenamin cases, but the contrast between the two series leads Shattuck to continue the use of the drug, and thus perhaps to arrive at more definite conclusions.

118. **Fibrositis and Chronic Hypertrophic Spondylitis.**—Having studied a considerable number of cases of chronic "rheumatic" myositis and having observed in these cases many instances in which the skin, fasciæ, fat and periosteum as well as muscles were involved, and also finding tenderness and stiffness quite commonly present about the spine in many persons in whom other parts were affected, it has seemed to Yawger that chronic hypertrophic spondylitis is often but the spinal localization of a very common general condition, and which, in a mild degree, is quite frequently present. In many instances these various manifestations appear to have a common cause, this being auto-intoxication of intestinal origin. Of course, Yawger says, it is important to distinguish between a stiff back due to adventitious osseous formations and that due to chronic muscular rheumatism, and this may be done with the administration of an anesthetic, when the latter condition yields readily, while the former remains unchanged. A skiagraph will also help to clear up the diagnosis.

119. **Gastric Hyperacidity.**—The results obtained by Hall in the treatment of thirty patients who complained of distress or pain, referred to the stomach with other symptoms of hyperacidity by means of hydrogen peroxid show that it diminishes the amount of hydrochloric acid in the stomach; that those patients with hyperchlorhydria get great or total relief from their symptoms; that there is a gain in weight; that it does not appear to benefit cases with active ulcer; and finally, that this method of treatment is a useful addition to the methods already in use in the treatment of hyperchlorhydria.

Annals of Otology, Rhinology and Laryngology, St. Louis

March

124 Therapeutic Value of Radium in Treatment of Diseases of the Upper Air Tract. W. Freudenthal, New York.
125 Examination and Treatment of the Nasopharynx and Eustachian Tube by Aid of the Nasopharyngoscope. E. M. Holmes, Boston.
126 Electric Nasopharyngoscope. F. P. Emerson, Boston.
127 A Case of Cerebellar Abscess Presenting Certain Features Suggestive of Labyrinthine Suppuration. P. D. Kerrison, New York.
128 Suppurative Otitis Media Treated with Suspensions of Lactic Acid Bacilli. W. H. Haskin, New York.
129 Pathologic Conditions of the Ear Resulting in Profound Impairment of Hearing. E. B. Dench, New York.
130 A New Method of Eliciting the Functional Ear Tests. E. P. Fowler, New York.
131 Sarcoma of the Nose and Nasopharynx. T. H. Farrell, Utica, N. Y.
132 Carcinoma of the Pinna and External Auditory Canal. H. A. Kiefer, Los Angeles.
133 Educating the Eye to Substitute for Deaf Ears. E. B. Nitchie, New York.
134 The Ideal Clinic in Laryngology. A. J. Hucy, New York.
135 The Yankauer Operation in Chronic Middle Ear Suppurations. H. Hays, New York.
136 Pathogenesis of Otosclerosis. G. Ferreri, Rome.
137 Sinus Thrombosis with Special Reference to the Diagnostic Value of Blood-Cultures in Otitic Disease. S. Oppenheimer, New York.
138 Cases of Ear Suppuration Presenting Irregular Symptoms. E. B. Dench, New York.
139 A Case of Sinus Thrombosis, with Extensive Accumulation of Fluid Pus in the Sinus: Recovery After Resection of the Jugular Vein. R. L. Loughran, New York.
140 Mechanical Aids to Hearing. P. Fridenberg, New York.
141 Physiologic Vestibular Nystagmus. J. R. Fletcher, Chicago.
142 The Improved Technic of the Thiersch Graft Following the Radical Mastoid Operation. C. F. Welty, San Francisco.

Lancet-Clinic, Cincinnati

June 10

143 Cooperation, Inspection and Reorganization of Medical Colleges. J. U. Barnhill, Columbus, Ohio.
144 Acute Pericarditis with Effusion. C. A. Tribbet, Westboro, Ohio.

June 17

145 Enucleation of the Eye Under Local Anesthesia—Indications and Technic. D. T. Vail, Cincinnati.
146 Importance of Teaching Dermatology and Syphilology in the Medical Colleges. A. Ravogli, Cincinnati.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 27

1 *Rational Empiricism and Scientific Medicine: The Boundaries Dividing Them. Sir D. Duckworth.
2 Food and Feeding. R. Saundby.
3 *Cancer, Credulity and Quackery. E. F. Bashford.
4 Bonesetting. H. Marsh.
5 *Quackery and Female Complaints. Sir J. Byers.
6 Skin Diseases and Cosmetics. G. Pernet.
7 Practice of Medicine and Surgery by Unqualified Persons. J. H. Taylor.
8 Quackery in Rural Districts. C. E. S. Flemming.
9 Unqualified Practice in East Anglia. E. G. Barnes.
10 Bonesetting and Treatment of Painful Joints. F. Romer and L. E. Creasy.

June 3

11 *Fractures of the Patella and Their Surgical Treatment. C. B. Lockwood.
12 *Bursal Swellings About the Knee-Joint. A. E. Barker.
13 [illegible] of Strong Sulphur Water. D. Brown.
14 [illegible] of Disease. W. R. Gore.
15 [illegible] Rural Districts. H. Hick.
16 Transmission of Trypanosoma Lewisi by Rat-Flea (Ceratophylus Fasciatus). E. A. Minchin and J. D. Thomson.
17 Comparative Nutritive Value of White, Standard and Whole-Meal Bread. L. Hill and M. Flack.

1. **Rational Empiricism and Scientific Medicine.**—Rational empiricism together with slowly progressive scientific medicine, says Duckworth, are now being carried on by the best practitioners. In the immediate interests of the sick this must be so, and there can be no antagonism between them so long as the whole field of medicine is not covered by science. The boundaries which divide them are sufficiently clear to all well-educated members of the profession. It is as possible to be too empirical as it is to be too scientific in daily practice. Some therapeutic methods urged on an alleged scientific basis have ultimately proved to be unscientific, and of little or no value. In the meantime, Duckworth says, we need to be both more prudently empirical, and more on the alert to avail ourselves of such knowledge as comes to us with the imprimatur of honesty and exact laboratory research. Such research must, however, be carried on with close and prolonged clinical cooperation. In that way only true progress lies. The task is, indeed, a difficult one, and the outlook for all engaged in it appears likely to become more burdensome for each generation. Such seekers after truth must not expect much sympathy or support from the public, which looks for results quickly wrested from Nature, and is apt to be impatient with slow and persevering research. They know, however, that the true philosopher, who makes his mark for all time, reserves his results till he has covered the whole field of his research, and that he is the last man to seek untimely and sensational publicity for them.

3. **Cancer, Credulity, and Quackery.**—A few of the so-called "cancer cures" investigated by the Imperial Cancer Research Fund are spoken of by Bashford, also the reasons for the existence of so much credulity on the part of the public.

5. **Quackery and Female Complaints.**—The suppression of quackery, Byers believes, may be brought about in three ways: (1) By doing everything to advance the progress of medical science and to improve the art of healing; (2) by educating the public as to the folly of quack nostrums, particularly in the direction of the exposure of "secret remedies," by scientific analysis as to what they contain and what they cost, as is being so admirably carried out by the British Medical Association; and (3) by demanding that there should be legislation on the subject which might follow the lines indicated by the executive committee of the Association of County Councils in Scotland, who have recommended their association to adopt a resolution to the effect that the Sale of Food and Drugs Acts should be amended and extended so as to provide: (1) That for medicines which are supplied otherwise than on medical, dental or veterinarian prescriptions, no condition of sale short of the publication on each packet of medicine of the name and quantity of each of its constituents should be permitted. (2) That the label should be made to constitute a warranty; and that a false description, whether on the label or main advertisement, should be made an offense. (3) That the provisions of the Sale of Food and Drugs Acts should be applied to proprietary medicines.

11. **Fractures of Patella and Surgical Treatment.**—Lockwood strongly favors treating all fractures of the patella by an open operation. It gives a far better result in a far shorter time. The advantages gained far outweigh the risks.

12. **Bursal Swellings About Knee-Joint.**—Barker not only discusses the usual enlargements of bursal cavities about the knee, but also suggests that in some obscure conditions in this region an explanation may be found in enlargements of synovial tracts which are sometimes forgotten. In the case of enlargement of some of them he believes that they are the origin of those large cystic swellings which have been erroneously believed to be due to hernial protrusions of the synovial membrane of the knee-joint. As to treatment, we are safest when we regard them as rudimentary joints, and deal with them as such. And as it is now recognized that joints may be dealt with freely by operation with a good prospect of the preservation of their functions, so may these bursal sacs.

Lancet, London

June 3

18 *Progressive Spinal Muscular Atrophies of Infants (Werdnig-Hoffmann). F. E. Batten.
19 The Medico-Chirurgical Transactions a Hundred Years Ago. J. M. Bruce.
20 Position of Present Reform Movement in Anesthetics. F. W. Hewitt.
21 *"Förster's Operation" of Posterior Root Section for Treatment of Spasticity (Rhizotomy). O. May.
22 Successful Removal of a Sarcoma from Head of the Pancreas. J. Sherren.
23 *Referred Penile Pain in Intussusception. G. E. Waugh.
24 Chronic Pancreatitis, Diagnosis and Treatment. P. J. Cammidge.
25 Gangrenous Pancreatitis; Operation; Recovery. G. A. Wright and E. L. Luckman.
26 Tobacco Dyspnea. J. D. Reckitt.
27 Burns of Anterior Aspect of the Chest and Neck, with Part of Lateral and Posterior Aspects. E. F. Travers and D. F. Maunsell.

18. **Progressive Spinal Muscular Atrophies of Infants.**—The case described by Batten illustrates a type of progressive paralysis beginning in a child below the *age of 12 months*, affecting, in the first place, the trunk and proximal muscles, gradually spreading to those more distally situated, affecting the intercostals but sparing the diaphragm. The intelligence, sensation, and the visceral functions remain unaffected. Pathologic examination of other cases shows that this progressive paralysis is due to a change in the cells of the anterior horn caused by some toxin or condition the nature of which is at present unknown.

21. **"Forster's Operation" of Posterior Root Section for Treatment of Spasticity.**—In May's case, the operation yielded the most satisfactory results. The spasticity was of congenital origin. The patient was 5 years old. His condition before operation was as follows: By the exercise of considerable force the leg could be almost fully extended, but would spring back immediately it was released. If the heel of one foot was raised quickly from the bed the other promptly followed it. If done very gradually the other heel was raised when the first was about 10 inches from the bed. The maximum separation possible of the knees was 7 inches and of the ankles 15 inches. If one leg was held down the other could not be raised more than 12 inches (from the bed to the heel). The maximum voluntary separation of the heels was about 6 inches, and this could not be sustained, the legs returning quickly to the crossed position. The legs could not be moved independently at all; efforts to raise one leg caused *movements* of all the limbs and often of the head as well. All the tendon jerks—knee, ankle, adductor, etc.—were tremendously exaggerated; ankle-clonus was not obtained, being prevented by the strong contracture of the plantar flexors of the ankle. Even light pressure over the adductor tubercle of the thigh caused a spasmodic movement of the whole frame—limbs and trunks. The plantar reflexes were of the extensor type, and Oppenheim's reflex was easily obtainable. No impairment of sensation could be detected. The second sacral and fifth, third and second lumbar posterior roots on each side were successively resected. Three weeks after operation, forcible extension of the knee seemed rather painful; otherwise there was no evidence of pain. The legs could be widely abducted, until the ankles were nearly 30 inches apart. There was still, however, some degree of spasticity of the adductors and hamstrings; the calf muscles were free, so that the foot could be fully dorsi-flexed. The reflexes were as previously noted. The child had lost the marked spasm previously elicitable by pressure over the insertion of the adductor magnus. Each leg could be fully flexed at the hip without producing any appreciable movement of the other leg.

23. **Referred Penile Pain in Intussusception.**—The occurrence of paroxysmal attacks of pain referred to the end of the penis and suprapubic region in association with an intussusception appears not to have been recorded up to the present time. Its association in cases with a definite abnormal type of mesenteric formation, and the fact that in one case this primitive persistence of mesenteries was diagnosed before the operation and confirmed by the operation, are additional reasons why Waugh calls attention to it. Lastly, some unusual features of intussusception formation appear to depend on the presence of these mesenteries, and when their presence can be recognized beforehand by reason of this referred pain a departure from the usual traditional treatment of immediate operation can be justified with advantage to the patient. The clinical signs and symptoms common to these cases briefly were these: Pain in the abdomen and vomiting at intervals, were present for about a week before admission to hospital. The pain was paroxysmal in nature, was sufficiently intense to make the patient cry out loudly and clutch the end of the penis. The penis and suprapubic region were lacerated by the fingernails. In all the cases the pain had been present for two or three days before the vomiting began. The abdomen was soft, not distended, and moving freely. A tumor of the usual character of an intussusception was present in the left iliac fossa and easily palpable per rectum. Small quantities of feces were passed at intervals, with only an occasional slight trace of mucus, and on one occasion a tinge of blood was present. In these three cases development had been arrested at the stage of rotation, so that no fusion of the retrocolic folds of peritoneum had occurred. That is to say, both the ascending and descending colons hung freely from the posterior abdominal wall, with a fold of peritoneum nearly one inch in depth behind them, forming an ascending and descending mesocolon, while the mesocolon of the transverse portion of the large gut had not fused with the layers of the great omentum, so that part of the intestine lay in the abdominal cavity at a level just below the transumbilical plane. Further evidence of a primitive stage of development was the presence of a large appendix fully three inches in length, reaching up to the under surface of the right lobe of the liver, with an extensive and well-vascularized meso-appendix in all the cases, while in addition, in one of them a Meckel's diverticulum was present and in another a large congenital hernial sac in the left inguinal canal.

Medical Press and Circular, London

May 24

28 Endometritis. G. E. Herman.
29 Cases Illustrating the Origin of Hysterical and Pseudo-Hysterical *Symptoms.* T. A. Williams.
30 Errors of Diagnosis in Supposed Cases of Appendicitis. G. P. Newbold.
31 Hand Atrophies. C. M. H. Howell.
32 Treatment of Scar Tissue. W. K. Sibley.

May 31

33 Displacements of the Uterus and Pelvic Floor. J. S. Fairbairn.
34 *Absence of the Fallopian Tubes, with Recurrent Peritonitis; Spencer's Operation. E. A. Chill.
35 *Malformations of the Uterus, Tubes and Ovaries of Clinical Interest. A. Doran.
36 Injection of Paraffin in Depressed Scars, Furrows and Other Cosmetic Defects. D. Walsh.
37 A Case of Duodenal Ulcer. O. Smith.

34. **Absence of Fallopian Tubes.**—In the case cited by Chill there was *absence* of the Fallopian tubes and of menstruation, associated with monthly recurring attacks of peritonitis. A *woman, aged 31*, married three years, never had any menstrual flow. No blood or blood-stained fluid had ever been passed. At the age of 14, attacks of pelvic pains began and recurred *monthly, lasting three to seven days*, during which there might be a little whitish-yellow discharge, but never enough to require a diaper. These attacks became more and more severe, affecting the lower half of the abdomen, beginning on one side and spreading to the other, but always worse on the left side. This was *accompanied* by nausea, headache and sweat-

ing. She had been under treatment without benefit. These attacks of recurrent peritonitis rendered the patient weak and thin, but beyond this, everything, including the breasts, pubic hair, external genitals, vagina and uterus appeared normal. There was tenderness on pressure in both iliac regions and rigidity over the lower abdomen. *Per vaginam*, a tender swelling could be felt on each side behind and external to the uterus, more marked on the left side. The body of the uterus was quite normal; in the place of each cornu was a pea-like knob. There was no sign of the main portion of the Fallopian tube on either side, but the round ligament was well defined, and there was nothing else abnormal about the inner part of the broad ligament. Each ovary was enclosed in a pouch formed by peritoneal adhesions; the opening of the pouch into the general peritoneal cavity was directed backwards; the peritoneal surface of the ovaries projected into the interior of the pouches. This surface of the ovary appeared normal, and on pricking one of the follicles fluid spurted out. Chill did not observe any sign of a corpus luteum of menstruation, nor any remains of blood-clot or pigment whatever. In the wall of the sac where it was continuous with the broad ligament there appeared to be traces of the fimbriæ of the Fallopian tube. A uterine sound was passed quite easily and to the normal distance. But the lumen of the uterus did not extend into the pea-like knobs previously noted. On the left side the knob contained a small dermoid cyst enclosing sebaceous material but no hairs. On the right the knob was a mass of fibrous tissue. A drainage tube was passed downward from the uterine cavity through the cervix, and the orifices of the two ovarian pouches were brought over the uterus and sutured so as to establish a continuity with the uterine cavity. The patient has returned frequently for examination, is in very good health and has had no further attacks nor abdominal disturbance.

35. **Malformations of Uterus, Tubes and Ovaries.**—Four cases are reported by Doran: (1) Arrested development of the upper part of the female genital tract; (2) hermaphroditism detected in operations for hernia; (3) distention of the otherwise well-developed uterus and Fallopian tubes, with menstrual blood; (4) bifid and unicorn uterus in parous subjects.

Tropical Medicine and Hygiene, London

May 15

38 Curative Influence of Roentgen Rays in Malaria. H. D. McCulloch.
39 Cultural Characters of the Fungi of *Tinca Imbricata*. A. Castellani.

Annals of Tropical Medicine and Parasitology, Liverpool

April

40 Further Experimental Researches on the Etiology of Endemic Goiter. R. McCarrison.
41 Non-Ulcerating Oriental Sore: The Cultural Characteristics of the Parasite as Compared with a New Similar Parasite in Erthesina Bullo (Thumb), a Pentatomid Bug. R. M. Carter.
42 Infantile Leishmaniasis (Marda Tal Biccia) in Malta. A. Critien.
43 *Production, Life and Death of Crescents in Malignant Tertian Malaria, in Treated and Untreated Cases. D. Thomson.
44 *The Leukocytes in Malarial Fever: Method of Diagnosing Malaria Long After It Is Apparently Cured. D. Thomson.
45 Yellow Fever in the Black Race and Its Bearing on the Question of the Endemicity of Yellow Fever in West Africa. Sir R. Boyce.
46 The Ameba Parasitic in the Human Intestine, with Remarks on the Life-Cycle of Entameba Coli in Cultures. H. B. Fantham.
47 Observations on the *Tsetse-Fly*, Described as Glossina Grossa. R. Newstead.
48 The Correlation Between Trypanosomes, Leukocytes, Coagulation Time, Hemoglobin and Specific Gravity of Blood. V. T. Korke.

43. **Production, Life and Death of Crescents in Malignant Tertian Malaria.**—Thomson believes that crescents are produced from the ordinary asexual spores of *P. falciparum*, due to a development of immunity towards the latter. They develop somewhere in the internal organs and then appear suddenly in the peripheral blood. The period required for their development is about ten days. Crescents do not generally live more than a few days in the peripheral blood. Crescents may be present in the peripheral blood during periods as long as eight weeks, not because the individual crescents survive for that time, but because their numbers are constantly replenished from surviving asexual forms. Fresh broods of crescents come into the circulating blood daily, or every other day, or irregularly, according as the asexual sporulations occurring ten days before were quotidian, tertian, or irregular. Quinin has no direct destructive action on crescents, either during their development or afterward, but it destroys the asexual source of supply. Quinin reduces the crescents to numbers less than one per c.mm. of blood within three weeks, provided it be given in daily doses of twenty to thirty grains. Quinin in small doses tends to increase crescent production (?) by favoring the development of immunity to the asexual parasites. Methylene-blue in doses of 12 gr. daily reduces the number of crescents, and would seem to have some direct destructive action on them.

44. **Leukocytes in Malarial Fever.**—During active malaria the number of leukocytes in the peripheral blood is decreased. During quiescent malaria, and in cases apparently cured by treatment, the leukocytes in the peripheral blood are much increased. During the rigor and temperature in malaria, the mononuclear leukocyte percentage (more especially that of the large mononucleated variety) is low. With the fall of temperature, however, the mononuclear percentage rises very high, sometimes even to 90 per cent. of the total leukocytes. This fluctuation in the percentage of total mononuclear leukocytes occurs also long after continuous quinin treatment, and is observed for months and even years (?) after the last attack of fever. In these apparently cured cases of malaria, the mononuclear percentage is lowest at the time of the day at which the rigor and fever occurred during the previous active malaria; and, moreover, at this time there also occurs a very marked leukocytosis, which continues for only a few hours. The leukocytes often reach numbers as great as 30,000 to 50,000 per c.mm. of blood. On one occasion, noted by Thomson, they were as numerous as 125,000 per c.mm. Two hours later they had fallen to 22,000 per c.mm., and in eight more hours there were only 6,000 per c.mm. This case showed a regular daily periodic variation in the number of leukocytes, averaging from about 6,000 per c.mm. to 50,000 per c.mm. The height of the rise always occurred about noon. This was the time at which the rigor and fever, which was quotidian, was wont to occur previously. This post-malarial leukocyte phenomenon occurred always without exception in the forty cases examined, and would therefore seem to be an infallible sign of previous malaria, as, so far, it has not been observed in any other disease. It would appear, says Thomson, that large numbers of malarial parasites on sporulating cause leukopenia, while a very small number on sporulating cause a leukocytosis.

Journal of Laryngology, Rhinology and Otology, London

May

49 Fibrolysin in Otology. M. Yearsley.
50 The Visual Fields in Sphenoid and Ethmoid Sinusitis. G. F. C. Wallis.
51 Case of Thrombosis of the Lateral Sinus Exhibiting Symptoms of Cerebellar Abscess; Operation; Recovery. J. W. Wood.

Australian Medical Journal, Melbourne

April

52 *Etiology of Acute Rheumatism. A. V. M. Henderson.
53 Treatment of Cardiac Affections of Acute Rheumatism. H. H. Turnbull.
54 *Manifestations of Rheumatism in Children. F. H. Cole.
55 Relationship of Botany to Medicine. A. J. Ewart.
56 *Functional Murmurs in Children. R. M. Downes.
57 Ten Cases of Poisoning by Castor-Oil Seed. W. A. Wood.
58 Case of Sudden Death from Pulmonary Infarction. W. H. Brown.

52. **Etiology of Acute Rheumatism.**—Anderson's paper is a summary of the present stage of our knowledge of the etiology of acute rheumatism and other diseases apparently related to it. He believes that we may, at present, regard rheumatic fever as an acute infectious disease, the predisposing causes of which are to some extent known; and that its exciting cause is a germ, probably a diplococcus or streptococcus, and possibly the organism investigated by Poynton and Paine.

54. **Rheumatism in Children.**—Cole believes that in nearly all cases, the rheumatic heart in children comes to stay and to destroy, partly, no doubt, because the difficulties of management and treatment over long periods are almost insuperable.

56. **Functional Murmurs in Children.**—Downes regards it as advisable to bear well in mind, in regard to the question of treatment and prognosis, the frequency with which marked murmurs are present in children even with some signs of enlargement of the heart suggestive of congenital heart disease, these signs rapidly vanishing on change of posture, or on improvement of the general health. In addition, he says, the fact of the normal greater intensity of the pulmonary second sound in children has to be remembered in making a diagnosis of organic disease of the heart.

Annales des Maladies des Org. Génito-Urinaires, Paris

May 1, XXIX, No. 9, pp. 769-864

59 Pyelotomy for Removal of Renal Calculi; Six Cases. P. Bazy.
60 Complete Retention of Urine in Ulcerative Cystitis in Woman of 68. G. Gross and L. Heully.
61 Anuria Due to Presence of Calculi; Three Cases, One Fatal. Kouznetzki.

Annales de Médecine et Chirurgie Infantiles, Paris

May 1, XV, No. 9, pp. 273-304

62 The Appetite in Children. E. Périer and Gaujoux.

May 15, No. 10, pp. 305-336

63 Vomiting in Children. E. Périer and Gaujoux.
64 Management of Day Nurseries. (Le fonctionnement d'une crèche.) H. Boquet.

Archives des Maladies du Cœur, Etc., Paris

May, IV, No. 5, pp. 273-336

65 The Extrasystole as a Symptom and in Prognosis. M. Leconte.
66 Case of Adams-Stokes Syndrome Without Heart-Block. (Syndrome de Stokes-Adams, sans lésion du faisceau de His et sans blocage complet, dans un cas de péri-aortite avec médiastinite fibreuse dans la région du plexus cardiaque.) J. Mollard, A. Dumas and J. Rebattu.
67 Experimental Myeloid Reaction. R. Hertz.

Lyon Médical, Lyons

April 30, CXVI, No. 18, pp. 777-820

68 Acute Colitis with Necrosis: Two Cases. M. Ducand.

May 7, No. 19, pp. 821-872

69 Acute Encephalitis in Course of Pneumonia. J. Mollard and A. Dufourt.

May 14, No. 20, pp. 873-916

70 The Roots in the Nervous System. (Les Racines du système nerveux.) J. P. Morat.

Presse Médicale, Paris

May 24, XIX, No. 41, pp. 425-432

71 The Domain of Psychiatry. J. Dejerine.
72 *Should High Blood-Pressure Always Be Combated? A. Martinet.
73 Hay Asthma. (Asthme des foins.) P. Maurel.

May 27, No. 42, pp. 433-444

74 Clinical Examination of the Duodenum. R. Gaultier.
75 Paralytic Zona of the Cerebral Nerves and the Theory of Acute Posterior Poliomyelitis. H. Claude and H. Schaeffer.
76 Ankylostomiasis. H. Benoit-Bazille.

72. **Should Hypertension Always be Combated?**—Martinet concludes from his study of this question that when the systolic pressure drops while the diastolic pressure rises, this is a sign of weakening of the myocardium. On the other hand, when the systolic pressure drops and the diastolic drops with it, this is a sign of true primary hypertension in the artery; it is generally a favorable sign. In every case of hypertension there is a lower limit to the pressure in the artery, below which the pressure cannot be reduced without injury to the myocardium.

Revue de Gynécologie, Paris

March, XVI, No. 3, pp. 209-344

77 *Hermaphrodism. (Hermaphrodisme. Ses variétés et ses conséquences pour la pratique médicale.) T. Tuffier and A. Lapoint. (Neuf cas personnels de pseudo-hermaphrodisme.) S. Pozzi.

April, No. 4, pp. 345-440

78 Ovarian Cytotoxins. S. D. Chiaje.
79 Complex Case of Exstrophy of the Bladder. O. Cohrs.

77. **Hermaphrodism.**—This whole issue of the *Revue* is devoted to this subject, Tuffier and Lapoint reporting a case and comparing it with others on record. When dubious as to the sex of an infant they say that the physician had better inform the family of his doubts but at the same time advise to have the child brought up as a boy, as 75 per cent. of all hermaphrodites turn out to be of this sex, and, in the other event, it is easier to make the change than if a boy has been brought up as a girl. An incision in the inguinal region is a simple matter to confirm the sex, especially as a further operation generally follows. Exploratory laparotomy is justifiable in some cases. Kolisko did this on a 2-year-old child and determined the presence of normal internal female organs, but it might be better to wait until the age of 5. The medicolegal and surgical aspects are discussed by Pozzi, with a profusely illustrated description of nine cases of pseudohermaphrodism.

Revue de Médecine, Paris

April, XXXI, No. 4, pp. 265-344

80 *Recurring Erythema in the Tuberculous. E. Devic and C. Gardère.
81 *Tuberculous Rheumatism. L. Tommasi.
82 Experimental Research on Antiglycosuria Serums. L. Castriota.
83 Dementia Præcox. Pascal.
84 Pleurisy in Diabetes. Braillon.

May, No. 5, pp. 345-432

85 *Banti's Disease. W. Oettinger and P. L. Marie.
86 Potato in Diet of Diabetics. (Valeur de la pomme de terre comme aliment chez les diabétiques.) F. Rathéry.
87 Pericardial Friction in Tuberculous Pericarditis. E. Devic and C. Gardère.
88 Results of Experimental Inoculation of Meningococcus. R. Debré.
89 Actinomycosis of Base of Skull and Meninges. J. Belkowski.
90 Prevalence of Diabetes. R. Lépine.

80. **Recurring Erythema in the Tuberculous.**—In the case reported the woman had five recurring attacks of an eruption resembling that of scarlet fever, succumbing in the last attack which was of a hemorrhagic nature with femoral thrombosis and gangrene. Some of the attacks seemed to develop spontaneously while others followed the administration of antipyrin, etc. The erythema in such cases is evidently a manifestation of an idiosyncrasy or anaphylaxis. In the present case the first eruptive attack was diagnosed as measles, the second and third as scarlet fever; the latter was finally excluded by the lack of severe sore throat and of contagion of others and by the early desquamation.

81. **Tuberculous Rheumatism.**—Tommasi found a distinct history of some supposedly rheumatic joint trouble in 23 per cent. of his last hundred tuberculous patients. In 20 per cent. of the twenty-three cases the joint trouble had just preceded a hemoptysis or other manifestation of the tuberculosis. He gives the details of three cases in which the tuberculous nature of the joint trouble was very probable. One was a young girl with healed tuberculous lesions in the lung who had had pains in the joints at night for a month. They were severe but there were no signs of congestion or swelling in the joints affected and the fever was too slight for ordinary articular rheumatism. Necropsy showed conditions in the joints like those Poncet has described as typical of chronic tuberculous rheumatism. Death was due to intercurrent streptococcus septicemia. The tuberculin reactions had been negative during life. The second patient was a woman of 64 and all the large joints became painful and swelled but without redness or local heat. She died of intercurrent pneumonia three months later, and the necropsy findings were also typical of tuberculous rheumatism; the diffuse tuberculous fibrous processes in the lungs and a focus of osteomyelitis also testified to the tuberculous nature of the rheumatism. In all three cases salicylic medication did harm rather than good, and the local intolerance of heat was also striking. The importance of differentiation of the tuberculous rheumatism is due mostly to the necessity for treatment as for tuberculosis rather than for rheumatism, as the measures indicated for the latter do direct harm in the former. In the third case one joint was generally affected at a time for a few weeks and then another, the clinical picture being more of the nature of a serofibrinous synovitis with effusion.

85. **Banti's Disease.**—The patient in the case reported was a previously healthy young man whose spleen gradually enlarged in the course of three or four months. There were no other symptoms except a slight tendency to jaundice and on seven occasions vomiting of blood or melena. Splenectomy was done to put an end to the hemorrhages but the patient died in a postoperative hemorrhage. Necropsy showed lesions in the spleen, liver and splenic vein. The possibility of these is the gravest danger in operative treatment of Banti's disease. The mortality is 50 per cent. to date, but only 12.5 per cent. in

the cases in which the operation was done before the disease was extremely far advanced.

Semaine Médicale, Paris

May 24, XXI, No. 21, pp. 241-252

91 *Chronic Intestinal Stasis. F. Lejars..

May 31, No. 22, pp. 253-264

92 *Diffuse Phlegmons with Slow Course and Their Treatment. F. Moty.

91. **Chronic Intestinal Stasis.**—Lejars reviews a long array of articles in international literature on chronic constipation and intestinal obstruction *from kinks and adhesions.* The various operative measures that have been extolled have not obtained much credit, he says, in their home countries and there is still a broad field for research on the causes and accidents of intestinal stasis and their prevention. When medical measures fail, surgical should be applied in the appropriate cases before irreparable harm has been done, but the question as to the best mode of intervention is still open to discussion.

92. **Treatment of Diffuse Phlegmon with Long Course.**—Moty warns that extensive incisions may do harm in diffuse phlegmons, especially of the chest wall. He reports two cases in detail; his first patient was a young soldier and after a long period of extreme weariness and indisposition to exertion the pectoralis major was found protruding from a phlegmon below. In two days the swelling had extended in all directions and an erythema developed on the chest wall, sparing the phlegmon region proper. Several punctures were made but no pus could be discovered, until finally a little secretion drained away through a wick inserted in the last puncture hole. By *the end of six weeks the patient was practically cured although* very thin. Moty encountered a second case of this same deep, diffuse, erysipelatous, almost chronic phlegmon, also in a young soldier, and Galine has reported a similar case with a fatal outcome after extensive incisions. Moty ascribes his success with his two patients to his cautious conservative treatment, refraining from injuring the tissues, saying that this class of phlegmons displays little tendency to gangrene, and the purulent foci are small and long in developing. They are manifestly due to some general or generalized cause, as is shown by the long preceding malaise, and the small pus foci are gradually absorbed. Nature heals by a kind of autoserotherapy, the physician aiding with constitutional treatment, quinin, arsenic and tonics, but refraining from overactive local measures. What is the use of incising here and there to give issue merely to a little blood, with no effect on the general condition? It is far wiser, he says, to wait and merely puncture when the small circumscribed foci are revealed by fluctuation. They are the expression of a local reaction to the general affection and the natural defensive process should not be hindered by injuring the tissues from without in the useless search for pus. Moty does not go quite so far as Georgiades, of Athens, however. The latter now refrains even from puncture. He has encountered thirty-six cases of diffuse phlegmon in children, and reports that none died of the twenty-seven treated merely by applying a protecting and absorbent bandage, while six died of the *nine* who were treated by incisions.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIX, No. 3, pp. 431-507. Last indexed June 3, p. 1690

93 Frequency, Importance and Specific Diagnosis of Bovine Tuberculosis. (Rindertuberkulose.) M. Klimmer.

94 The Air in Pneumothorax. (Untersuchungen über Pneumothoraxluft.) F. Tobiesen.

95 Necropsy Findings in Lung Immobilized by Induced Pneumothorax. (Zur pathologischen Anatomie des künstlichen Pneumothorax.) E. Kistler.

96 *Children in Contact with Tuberculosis. (Das Kind im tuberkulösen Milieu.) R. Pollak.

97 Specific Endotin Treatment of Tuberculosis. I. Gabrilowitsch.

96. **The Child in a Tuberculous Environment.**—Pollak has been systematically examining conditions in the families with tuberculous infants, and has found it possible to trace the tuberculosis to its source in every such case. He has also applied the tuberculin test to 285 chilldren from 6 months to 14 years old who lived in contact with some tuberculous individual, and only six of the children failed to give a positive reaction to the tuberculin. *Analysis of this material and* of his experience outside has demonstrated, he asserts, that a great difference is evident between the children who were exposed to tuberculosis during infancy and up to the age of 4, and those who were *not* exposed to this infection until after the age of 4. While both give a positive tuberculin reaction, yet there are seldom manifest symptoms of tuberculosis in the children not infected until after the age of 4, and the infection seems to remain latent in them. On the other hand, the children infected before the age of 4 generally develop symptoms and grow up with the phthisical habitus. The tuberculous manifestations of older children may generally be regarded as the relapse of infection acquired during early childhood. When older children bear infection with tubercle bacilli without apparent harm, their systems must have gradually become proof against the tubercle bacilli. The experiences related emphasize anew the paramount importance of protecting children under 4 from infection with tuberculosis.

Berliner klinische Wochenschrift

May 22, XLVIII, No. 21, pp. 925-972

98 *Indications for Surgical Treatment of Gastric Ulcer and Its Consequences. (Magengeschwür.) L. Kuttner.

99 Radiology of the Stomach. (Geben uns die in der Radiologie zur Verwendung kommenden Metallsalze ein falsches Bild von Form und Grösse des Magens?) A. Hasse.

100 *Technic of Transfusion. W. Schultz.

101 Acute Benzol Poisoning. E. Buchmann.

102 Familial Inherited Eosinophilia. D. Klinkert.

103 *Bilateral Intrathoracic Vagotomy. E. Unger, M. Bettmann and S. Rubaschow.

104 Subcutaneous Injection of Tuberculin for Diagnosis in Animal Experiments. M. Jacoby and N. Meyer.

105 Growth Changes Suggesting Mutation in Cholera Germs. O. Weltmann.

98. ***Gastric Ulcer.***—Kuttner discusses the indications for operative treatment and the final outcome in cases of gastric ulcer. He has encountered cases in which cancer developed in the floor of a round gastric ulcer and also cases in which a carcinoma developed in the vicinity of an ulcer and he has also witnessed the transformation of a benign pyloric stenosis into malignant disease. At the same time, he does not think that these occurrences are frequent. The greatest predisposition for cancerous degeneration is afforded by old ulcers and those in the prepyloric region. The ulcer developing cancer may show no symptoms of cancer and even with direct inspection, it may be impossible to distinguish between simple ulcer and cancer when only scraps of the tumor are examined. In *Kuttner's thirty cases of resection on account of callous ulcer* the microscope revealed cancer in over 43 per cent. These facts and the great benefit liable to be derived from an operation with simple chronic ulcer and benign pyloric stenosis have convinced Kuttner that in dubious cases and when there is the slightest suspicion of cancer, resection should be advocated. He regards it as the duty of the internist to appreciate the limits of his skill and the necessity for calling in the surgeon when this promises better results than internal treatment alone. Surgery is winning its best laurels in the field of gastric ulcer, but far better results will be attained, he declares, when all realize that the operation must be supplemented by a course of ulcer dieting. It is a great temptation to let the *patient eat at will* after the operation, but this avenges itself and sooner or later the patient returns with recurring ulcer or some dangerous complication, all of which might have been avoided by proper internist care after the operation. Not only before but during and after the operation, surgeon and internist must work together. He does not consider operative intervention except in the cases of gastric ulcer refractory to all internal measures and which by their persisting or continually recurring pains and vomiting *permanently* distress and debilitate the patient. Repeated ulcer courses are especially justified when there are long intervals in which the patient is free from disturbances.

100. **Transfusion of Blood.**—Schultz writes from Grawitz' service to describe the fine results obtained with transfusion from man to man after the blood has been tested for agglutinins and hemolysins with negative findings. By this precaution, it has been possible to eliminate the symptoms, such as collapse, chills, hemoglobinuria and edema, which formerly were common. At the same time, as is shown by a recent case described in detail, there must be some other biologic differ-

ences between the blood of the two persons which are as yet unknown but which may cause fever and malaise under certain circumstances. In the case reported, aside from the transient disturbance, great benefit was derived from the transfusion of 380 c.c. of defibrinated blood. In three days the red corpuscles had increased from 713,000 to 1,240,000.

103. **Bilateral Vagotomy.**—The research described was done with the Meltzer tracheal insufflation method for maintaining the pressure in the lungs and administering ether when the thorax was opened. Experiments on sixteen dogs showed, the writers say, that the Meltzer technic does not injure the lungs or heart and that severing the vagus close above the diaphragm has no injurious consequences for the functioning of the lungs and heart, but the stomach musculature becomes paralyzed and the contents are not moved along. If the stomach was full just before the operation and more food was taken afterward, the mass remained in the stomach and acute dilatation followed and ulceration was almost inevitable. If the stomach was empty before the operation and the dogs were given merely fluid food for eight or ten days afterward, the paresis of the stomach subsided and the dogs showed no injurious consequences from the operation. There was no vomiting on the part of the dogs, probably because the vagus was severed so low that the nerve fibers innervating the lower part of the esophagus were not divided.

Deutsches Archiv für klinische Medizin, Leipsic

CII, Nos. 5-6, pp. 457-624. Last indexed June 3, p. 1692

106 *Hitherto Undescribed Properties of the Urine. (Neue Eigenschaften des Harnes bei Gesunden und Kranken.) H. Pribram.
107 Pepsin in Urine Has No Diagnostic Importance with Gastric Cancer. (Harnpepsin bei Magencarcinom.) R. Bieling.
108 Localization of Atherosclerotic Processes in the Peripheral Arteries. S. Oberndorfer.
109 Metabolism of Salt and Kidney Functioning. (Experimentelle Untersuchungen über Kochsalzwechsel und Nierenfunktion.) H. v. Hoesslin and T. Kashiwado.
110 Congenital Pulmonary Stenosis and Secondary Changes in Blood. F. P. Weber and G. Dorner.
111 Study of Second Heart Sound. R. Wiesel.
112 Connections Between Nucleus and Plasma in Rudimentary Red Blood Corpuscles and Their Relation to the Hemoglobin. (Ueber Verbindungen zwischen Kern und Cytoplasma bei Erythroblasten und deren Beziehungen zum Hämoglobin.) W. Knoll.
113 *Independence of Peripheral Blood-Vessel System and Its Relations with the Central System. (Ueber die Selbständigkeit der Peripherie des Kreislaufes und ihre Beziehungen zum zentralen System.) K. Hasebroek.
114 Mercuric Cyanid Test for Sugar Content of Blood. (Neue Methode der Bestimmung des Blutzuckergehaltes.) H. Tachau.
115 Poisoning with Ammonium Sulphocyanid. (Vergiftung mit Rhodanammon.) O. Adler.
116 The Arneth Eosinophil Blood Picture. O. Roth.
117 *Diabetes and Cancer in the Pancreas. (Ueber Zuckerkrankheit und Krebs in der Bauchspeicheldrüse.) K. A. Heiberg.

Supplement.

118 General Index, Vols. I-C.

106. **Some New Properties of Urine.**—Pribram reports clinical, chemical and serologic research on the urine which has demonstrated, he says, that the urine injected into an animal induces the production of hemolysins, precipitins and complement-binding antibodies in the animal's serum. Precipitation occurs more intensely with normal urine than with urine containing albumin, while the complement-binding property is most marked with the latter. He discusses which elements in the urine are responsible for these various actions.

113. **Independence of the Peripheral Circulation.**—Hasebroek presents evidence to show that the relative width of the vessels does not determine the biologic conditions in regard to the peripheral circulation. He expatiates on the importance of the pulse wave and of the aspiration at the periphery and the relations between the latter and the central propelling impulse.

117. **Diabetes with Cancer in the Pancreas.**—Heiberg has found glycosuria mentioned in only three of thirty-five cases of pancreatic cancer whose records he had examined, and it was never very pronounced. In a case he reports in detail the diabetes was most probably *primary*, the same as in a case reported by Lépine in 1909. In both these cases the diabetes had existed for eighteen months and several years and the cancer was of comparatively recent development. Heiberg's patient was a man of 37.

Deutsche medizinische Wochenschrift, Berlin

May 25, XXXVII, No. 21, pp. 961-1008

119 *Bilateral Thrombosis of Femoral Veins After Severe Catarrh of the Large Intestine. B. Riedel.
120 *Tuberculosis of the Kidneys. (Ueber Nierentuberkulose.) A. Barth.
121 Acid-Agglutination of Bacteria, Especially of Typhoid Bacilli. L. Michaelis.
122 Changes in the Suprarenals with Growth. (Ueber den Umbau der Nebenniere im extrauterinen Leben.) H. Kern.
123 *Physical Forces in Treatment of Certain Internal Diseases. (Die physikalische Therapie bei einigen inneren Erkrankungen.) F. Klug.
124 Radiography of Calculi in Urinary Passages. (Untersuchungen über die röntgenologische Darstellbarkeit von Steinen des harnleitenden Apparates.) W. Telemann.
125 Vaccine Therapy. A. Strubell.
126 Salvarsan and Hemolysis. H. Meyer.
127 Pathogenesis of Hemorrhagic Purpura. S. Cannata.
128 The Pyloric Murmur. (Das Pylorusgeräusch.) S. J. Meltzer.

119. **Bilateral Femoral Thrombosis after Severe Intestinal Catarrh.**—Riedel reports two cases which suggest that thrombosis in certain obscure cases may be traced to a pre-existing intestinal affection. Both of his patients recovered, so he cannot prove the truth of his surmise as to the connection between the intestinal catarrh and the development of the thrombosis, but the features of the cases seem to sustain it. The first patient was a young housemaid and the primary trouble was a severe gastro-intestinal catarrh, with the large intestine predominantly affected. The onset was so sudden and stormy that appendicectomy was done at once but the appendix was found totally obliterated. Diarrhea continued after the operation and by the eighth day signs of thrombosis appeared. The second patient was a physician, 63 years old, whose right leg had been amputated on account of obstruction of the anterior tibial artery. He became extremely constipated from lack of the exercise that used to keep his bowels in good order, while he refrained from straining at stool for fear of injuring the healing of the stump. After three months he had vague discomfort and loss of appetite, slight chilliness, the tongue somewhat coated, and by chance his temperature was taken and found febrile, with pulse of 96, and the next day signs of serious auto-intoxication developed; the tongue and mouth were parched and the patient was constantly somnolent. Riedel comments parenthetically on the importance of this constantly dropping off to sleep as a sign of auto-intoxication, having observed it in an extreme type recently in a patient whose ileum had been united with the sigmoid flexure. The feces passed on into the colon and accumulated there instead of taking the short cut into the rectum. This patient could not keep awake until an artificial anus was made, which restored approximately normal conditions. In Riedel's second patient mentioned above the auto-intoxication was intense and the patient lost 24 pounds in two weeks. Then the thrombosis in both thighs was discovered. The patient had not complained of any pain. He gradually recovered and was able to resume his practice after three months, and by the fifth month he had regained his former weight and health. Riedel thinks it probable that colon bacilli may migrate from the intestine in case of catarrh or extreme constipation and pass into the mesenteric lymphatics and thence into the walls of minute veins. From this point thrombosis may develop down into the femoral veins by way of the hypogastric vein. In both his cases the thrombi were apparently entirely aseptic or only very slightly infected, judging from the outcome of the cases. One patient had typical obstructing thrombosis, the other probably only thrombosis at the valves, with transient piling up of blood-plates.

120. **Tuberculosis of the Kidneys.**—Barth has traced to date thirty-seven patients whose kidney he had removed on account of tuberculosis; three others died. During the same period he had about forty other patients with renal tuberculosis who were not given operative treatment for various reasons. Twelve of the thirty-seven patients recovered entirely after the nephrectomy and twelve were materially improved while thirteen have died. Analysis of the cases shows that as long as the tuberculous process is restricted to one kidney and its ureter, nephrectomy promises a complete cure. But if the bladder is involved, a cure can be anticipated in only 25 per cent. of the cases; 25 per cent. of his patients succumbed during the year to the progress of the tuberculosis,

The others all showed great improvement, but about 25 per cent. succumbed later to the tuberculosis, after an interval of from two to over nine years. Even when the tuberculous process in the bladder heals completely, it leaves permanent disturbances in the form of unduly frequent desires to urinate, particularly annoying at night. He admits the possibility of a spontaneous cure of open or closed tuberculosis of the kidney, but declares that there is not the least prospect of such a cure after the tuberculous foci begin to break down and pyuria appears. The process then spreads rapidly along the lymphatics in the kidney itself and down toward the bladder. It is impossible to determine the actual healing of a tuberculous process in the kidneys except by repeated catheterization of the ureter; all other signs and information are deceptive and worthless. Nephrectomy with unilateral tuberculosis, normal functioning of the other kidney understood, is, he affirms, almost entirely free from danger. It should be advocated in every case of open tuberculosis of the kidney and if possible before the bladder is invaded. The open tuberculous process in the kidney can be detected in the incipient and early stages only with the aid of the ureter catheter; chromocystoscopy does not locate the seat of the process unless there is advanced destruction of kidney tissue. It is important, therefore, to insist on catheterization of the ureters and bacteriologic examination of the urine in every obscure case of pyuria ("catarrh of the bladder").

123. **Employment of Physical Agents in Treatment of Internal Disease.**—Klug expatiates on the importance of induced hyperemia in treatment of internal disease, stating that dry warmth acts more superficially and slowly on the tissues, owing to its comparatively slight conducting power, while moist heat, on account of its remarkable conducting power rapidly penetrates through the organs of the body, and of all methods of application the steam douche is most effectual, according to his extensive experience. He remarks that the steam douche has had only stepmotherly consideration in the literature to date, and yet its field is broad. He applies it to fully a third of all his patients with internal diseases, and ascribes a large part of his success to it, emphasizing the excellent results obtained in twenty-four cases of disturbances in the liver or biliary passages, especially congestions and stasis, cholecystitis, catarrhal jaundice, gall-stone trouble and diffuse inflammation of the liver. The steam douche puts an end to the cramp of the vessels causing the colics and thus cures the pain. The pressure is about one atmosphere and a half, and he generally follows it with an alternating hot and cold fan douche. When there is persisting tenderness he applies a hot coil to the liver region through which water at a temperature of 45 C. (113 F.) is constantly running. His experience with the steam douche was equally favorable in five cases of kidney stone colic. The steam douche was applied for half an hour and followed by a bath at 35 C., all cooperating to relax the spasmodic contraction of the vessels. The steam douche frequently takes the place of and renders morphin unnecessary. The same principles have proved equally effectual in treatment of motor and secretory gastric neuroses, nervous dyspepsia and gastralgia, acute and chronic gastro-intestinal catarrh, and for atony and constipation. Hot packs to the stomach region with a hot coil act as a specific for nervous vomiting or dyspepsia and gastralgia, but the steam douche proved more effectual in the other conditions supplemented by massage and exercises. He adds that the steam douche is proving a valuable aid also in treatment of pulmonary tuberculosis, etc.

Medizinische Klinik, Berlin

May 28, VII, No. 22, pp. 839-874 and Supplement

129 *Occult Diseases. (Okkulte Erkrankungen innerer Organe.) N. Ortner.
130 Digitalis in Treatment of Typhoid. A. Skutetzky.
131 Pseudoleukemia. (Ueber einen klinisch eigenartigen Fall von Hodgkinscher Krankheit — vom Typus Sternberg — mit Fraenkel-Muchschem Bacillenbefund.) H. Luce.
132 *Mishaps with Intravenous Salvarsan Injections. (Zufälle bei Intravenös [illegible]tionen.) Leven.
133 *Treatment [illegible] (Zur Behandlung des hartnäckigen [illegible]ke and G. Rethy.
134 Research on Effect of Climate. (Zur Methodik der Klimaforschung.) N. Zuntz.
135 Importance of Hormones for Internal Medicine. L. Borchardt.

129. **Occult Diseases.**—Ortner applies this term to an affection which is masked by some other more prominent one, and describes a number of instructive cases of this kind from his personal experience. Behind pulmonary emphysema may be hidden an aneurysm of the aorta or a hydrothorax; behind an acute or chronic insufficiency of the myocardium, there may be unsuspected exophthalmic goiter. His observation has shown that pronounced venous stasis without arrhythmia but accompanied by considerable tachycardia may be explained by injury of the heart from unsuspected exophthalmic goiter. Still more difficult to explain are the cases in which miliary tuberculosis is masked by insufficiency of the myocardium. In one such case fatty degeneration of the heart was assumed until the necropsy. In this as in a number of the other cases described, the mere conception of the possibility of the occult disease gives the clue to its discovery. Pernicious anemia and leukemia may be hidden beneath the clinical manifestation of cardiac insufficiency, anasarca, tender, enlarged liver with urobilinuria, dilatation of the heart and signs of relative mitral and tricuspid insufficiency. Neglect to examine the blood leads inevitably to diagnostic blunders. To detect a hidden hydrothorax, he has found it useful to determine the lower, rear limit of the lungs after the patient has been reclining flat for a long time. The lower limit will be found very high but after the patient has been erect for a time the fluid flows forward and the lung is low again. He warns that he has often found a copious pleural effusion persisting for months behind the retracted part of the thorax drawn in by the newly formed connective tissue on the pleura. Exploratory puncture, evacuation of the accumulated fluid, rendered complete by pumping in of air—these are the only certain means to reveal and cure these cases in which tuberculosis is often imagined and the patient sent to sanatoriums. The subfebrile temperature and disturbances keep up, however, until the purulent fluid behind the thickened pleura is discovered and released. Another occult affection is an ulcer at the pylorus causing very slight stenosis; the stomach is able usually to expel its contents but under special stress it fails. Conditions of this kind are best revealed by a test meal of a quantity of some food difficult to digest, the *Belastungsmahlzeit*, as he calls it.

132. **By-Effects After Injection of Salvarsan.**—Leven has reported a case of transient collapse after intravenous injection of salvarsan and here reports a still more serious case. An intravenous injection of 0.3 gm. of salvarsan, in a middle aged patient was followed at once by cyanosis and nausea and the face swelled enormously and the tongue became too large to pass between the lips. Intense headache and retching completed the picture, but the symptoms subsided after twenty minutes except for the swelling in the face. By the next morning nothing was left of the disturbances but moderate edema of the eyelids. The pulse and temperature had been persistently normal.

133. **Treatment of Obstinate Hiccup.**—Jödicke as a last resort in the very serious case reported, the patient so exhausted that he had been brought to the hospital, had the legs flexed on the abdomen and pressed them against the abdomen so that the intestines were forced up against the diaphragm as much as possible. The hiccups became at once weaker and the intervals longer and in ten minutes the hiccup had ceased entirely. They began again after two hours but were arrested anew by the same measure. The principle is the same as Kannegiesser's method of forcing up the diaphragm by the gases formed by effervescence in the stomach. Jödicke has applied his method again in several other cases and with equal success. Rethy reports good effects also from pressure applied along the entire spine.

Monatsschrift für Kinderheilkunde, Leipsic

April, X, No. 1, pp. 1-54

136 Metabolism of the Artificially-Fed Infant During First Days of Life. (Zur Physiologie des neugeborenen Kindes. IV.) W. Birk.
137 Treatment of Rachitis with Cod Liver Oil Emulsions and Their Action on the Metabolism. J. A. Schabad and R. F. Sorochowitsch.
138 Influenzal Whooping-Cough. (Zur Aetiologie des Keuchhustens.) E. Welde.
139 Behavior of Leukocytes in Tuberculosis in Children. (Verhalten der weissen Blutkörperchen bei kindlicher Tuberkulose.) H. Hirschfeld.

Münchener medizinische Wochenschrift

May 23, LVIII, No. 21, pp. 1113-1168

140 Theoretical and Practical Aspects of the Newer Electrophysiology. M. Gildemeister.
141 *Blood-Pressure Raising Properties of the Hypophysis Cerebri. (Ueber die therapeutische Anwendung von Pituitrin—Hypophysenextrakt—mit bes. Berücksichtigung seiner blutdrucksteigernden Komponente.) R. Klotz.
142 *Epinephrin in Peritonitis. (Die pharmakologischen Grundlagen für eine intravenöse Adrenalintherapie bei der Peritonitis.) E. Holzbach.
143 *Determination of Very Slight Albuminuria. (Zur Methodik des Nachweises sehr kleiner pathologischer Eiweissmengen im Harn.) O. Glaesgen.
144 *Irritation of the Kidneys by the Salicylates and Its Avoidance by Giving Alkalines. (Ueber Nierenreizung durch Salizylpräparate und ihre Aufhebung durch Alkalizufuhr.) O. Glaesgen.
145 Property of Human Organs to Render Air a Conductor for Electricity. (Fähigkeit menschlicher Organe, die Luft für Elektrizität leitend zu machen.) A. Caan.
146 Treatment of the Heart with High Frequency Oscillating Currents. (Zur Rumpfschen Herzbehandlung mit hochfrequenten oszillierenden Strömen.) G. Hunerfauth.
147 *Diagnostic Importance of Palpable Glands in Children's Arms. (Fühlbare Kubitaldrüsen bei Kindern.) P. Grosser and A. Dessauer.
148 Improved Technic for Leukocyte Count and Cytodiagnosis. (Eine erweiterte Zahlkammer für Leukozytenzählung und Zytodiagnostik.) R. Dunger.
149 The Hematocrite Blood-Count Method. (Bestimmung der Masse der roten Blutkörperchen durch Zentrifugieren.) R. Schmincke.
150 Salvarsan in Frambesia, Leprosy and Tropical Granuloma. G. Rost.
151 Dry Versus Moist Rubber Gloves. (Gummihandschuhe.) Schede.
152 To Prevent Caustic Action of Benzine. (Zur Aetzwirkung des am Verdunsten verhinderten Benzins.) A. Hörrmann.

141. **Hypophysis Extract.**—Klotz writes from Sellheim's clinic to describe experimental research and clinical experiences with an extract made from the hypophysis. He states that it induces a moderate rise in blood-pressure, lasting for several hours, with only slight demands on the heart. At the same time it stimulates the heart and peristalsis and also the bladder and increases the output of urine while it proves a stimulant for the uterus and the cardiovascular system in general. He adds that the extract is not a harmless, innocent substance by any means, and it should not be used when the blood-pressure is already high or the cardiovascular system out of order at any point. By intramuscular injection the action is speedy, and he does not think that any injury of the human organism under moderate dosage need be feared.

142. **Epinephrin in Peritonitis.**—Holzbach found that prolonged instillation of a very weak saline epinephrin solution was able to keep the blood-pressure at the normal height in peritonitis with a tendency to collapse, and do this without harm. Injection of a single dose in a concentrated solution is not only dangerous but does little good as the action of the epinephrin is transient. His clinical experience has confirmed the results of his experimental research in this line.

143. **Determination of Minute Amounts of Albumin in the Urine.**—Glaesgen adds 5 drops of a 20 per cent. solution of acetic acid to 20 c.c. of urine and then pours half into each of two beakers. The contents of one beaker are boiled, the other not. By this means the slightest tendency to coagulation of albumin in the boiled fluid is readily apparent.

144. **Alkalines to Prevent Injury of Kidneys During Salicylic Medication.**—Glaesgen found the sensitive test described in the preceding abstract extremely useful to determine injury of the kidney under the salicylates. Albuminuria was the rule, but this could be prevented by giving an alkali at the same time. About twice as much of the alkali as of the salicylate was necessary to neutralize it. The therapeutic action of the salicylates did not seem to be modified by the alkali, and the sodium bicarbonate even in doses of from 6 to 10 gm. (90 to 150 grains) a day did not seem to induce any disturbances; this amount was necessary to actually reduce the acidity of the urine.

147. **Diagnostic Importance of Enlarged Glands in the Arms of Children.**—Grosser and Dessauer examined 1,897 children for the presence of palpable supratrochlear lymph nodes, finding them equally frequent in the children with inherited syphilis and in those with rachitis. In those without syphilis or tuberculosis only 5.6 per cent. of the 1,037 infants and 7.8 per cent. of the 711 children over a year old had enlarged trochlear glands, while 19.2 per cent. of the 94 older children presented them. These findings show that palpable nodes in this region cannot be accepted as pathognomonic of syphilis.

Wiener klinische Wochenschrift, Vienna

May 18, XXIV, No. 20, pp. 695-733

153 *Appendicitis in Children. (Ueber Blinddarmentzündung beim Kinde.) H. Salzer.
154 *Intravascular Transplantation. G. Joannovics.
155 *Latent Pyelonephritis in Women. F. Kermauner.
156 Treatment of Acute Infectious Diseases with Salvarsan. F. Lucksch.
157 *Experimental Research on Cutaneous Reactions. F. Luithlen.
158 *Chorio-Epithelioma. F. Hitschmann and R. Cristofoletti. Commenced in No. 19.

153. **Appendicitis in Children.**—Salzer comments on the high mortality of appendicitis in children. Kümmell cites it at 11, 19 and up to 30 per cent., and in Salzer's 200 cases, thirty-five of the children were apparently cured by internal measures alone, two were moribund and 163 were given operative treatment with twenty-two deaths, a total mortality of 12 and operative mortality of 13 per cent. He insists that this excessive mortality is due solely to the fact that the trouble is not recognized early enough. People are too apt to regard gastro-intestinal disturbances in children as a matter of course and not as frequently a symptom of a serious affection. An early operation should be recommended even more energetically than for adults, as children must be protected against the indolence of their environment.

154. **Intravascular Transplantation.**—Joannovics reports some interesting experiments on cats injected with ground parathyroid and thyroid tissue in the jugular vein, with or without preceding thyroidectomy. In one animal tetany following thyroidectomy subsided under thyroid treatment.

155. **Latent Pyelonephritis.**—Kermauner calls attention to Göppert's important research on pyelocystitis in children, especially in infants; 89 per cent. of the children thus affected were girls. Interesting further is Heubner's assertion that pyelitis is especially frequent in children who have had some mild infectious disease, measles or varicella. In infants the pyelocystitis is most frequent in the second half of the first year and it seems to heal, but it recurs before puberty in about 20 per cent., and Kermauner thinks that it probably persists in a latent form for years when the colon bacillus is involved. This bacillus seems to thrive in the urine, while the urine is bactericidal for other bacteria. This demonstrates, he thinks, that colipyelitis may be traced into early childhood and that it may flare up after prolonged latency in consequence of some intercurrent injury. The menstrual periods may influence it to some extent, but the greatest influence is exerted by a pregnancy. This is liable to act as an intercurrent injurious influence bringing on an acute attack in some cases or merely aggravating the latent pyelitis. He reports a case in a woman of 30 who had had measles three times during childhood, and during menstruation had always experienced intense tenesmus and smarting in the vagina. At the fifth month of the pregnancy there was severe pain in the right kidney region for a few days, with turbid urine, but no fever and there is still a sense of oppression in the kidney region. He explains the case as a latent pyelonephritis, and recommends in such cases internal treatment with hexamethylenamin, although he does not think that an actual cure can thus be realized. If this medication clears up the urine, the diagnosis of latent pyelonephritis is rendered more probable. He does not advocate catheterization of the ureter and lavage of the pelvis unless the attack lasts for more than a week or is unusually severe. With latent pyelitis, local measures are best deferred until after the childbirth.

157. **Cutaneous Reactions in Animals.**—Luithlen has been experimenting with cats and dogs, watching the local reaction on their shaved backs to irritating substances after the animals had been taking hydrochloric acid, sodium oxalate or calcium chlorid. Under the influence of this medication the skin became much more sensitive to irritation from without; with the calcium chlorid the tendency to exudation was materially reduced. The skin is evidently modified from within, and the response to irritation can thus be varied at will.

158. **Chorio-Epithelioma.**—The first part of this article was reviewed in The Journal, June 17, page 1864. A case is here described in which vaginal hysterectomy was attempted for

malignant chorio-epithelioma, the patient a woman of 32, but conditions were found inoperable. Examination four weeks after the operation disclosed that the growth had disappeared and that the uterus was movable; the woman has been in good health during the eight years since. Study of this case shows that the thrombosed veins evidently prevented the spread of the chorio-epithelioma, the malignant tissue losing its vitality in the thrombosed vessels. The aim should be to reproduce similar conditions to restrict the growth to the region first involved. For this he recommends ligation of the efferent veins as a preliminary to abdominal hysterectomy, with great care to refrain from artificially inducing embolism.

Zeitschrift für Kinderheilkunde, Berlin

II, No. 1, pp. 1-122. Last indexed May 13, p. 1431

159 Distribution of Nitrogen in the Urine of New-Born Infants. (Zur Stickstoffverteilung im Urin des Neugeborenen.) S. Simon.
160 Physiology of Nutrition of Prematurely Born Infants. (Beiträge zur Physiologie der Ernährung von frühgeborenen Kindern.) S. Samelson.
161 Biologic Tests for Casein in Infants' Stools. (Nachweis des Caseins in den sogenannten Caseinbröckeln des Säuglingsstuhls mit Hilfe der biologischen Methodik, insbesondere der Anaphylaxie.) Uffenheimer and Y. Takeno.
162 Internal and External Temperature in Infants. (Ueber Stamm- und Hauttemperaturen bei Säuglingen.) H. Scheible.
163 *Incubation of Measles. (Cytologische und klinische Beobachtungen während der Maserninkubation.) R. Hecker.
164 Influence of Phosphorus Cod-Liver Oil on Metabolism of Rachitic Infants. (Bemerkungen zur der Arbeit von Dr. Caroline Towles: Untersuchungen über den Einfluss des Phosphorlebertrans auf den Stoffwechsel eines rachitischen Säuglings.) J. A. Schabad.

163. Incubation of Measles.—Hecker tabulates the findings in fourteen children whose blood was examined during the incubation period of measles. The temperature was found to vary widely even in the earliest stages and the blood showed pronounced reduction of white corpuscles, fully four and one-half days before the eruption and three and one-half days before Koplik's spots were manifest. Two or three days before the eruption the leukocyte count increased. In one of the cases the period of incubation was sixteen and in another twenty days. The tables confirm the resemblance between measles and serum sickness after the first injection, both a specific reaction, of the same type.

Zentralblatt für Chirurgie, Leipsic

May 20, XXXVIII, No. 20, pp. 693-724

165 Technic for Local Anesthesia. B. Hammer.

Zentralblatt für Gynäkologie, Leipsic

May 20, XXXV, No. 20, pp. 737-768

166 *Remarkable Resistance of the Peritoneum. (Seltene Widerstandsfähigkeit des Peritoneums.) S. S. Cholmogoroff.
167 Absorbing Power of Various Body Cavities. (Resorptionsvermögen diverser Körperhöhlen.) A. Czyzewicz.
168 Inefficacy of Local Chemical Means for Preventing Conception. (Experimenteller Beitrag zur Verhütung der Konzeption durch chemische Mittel.) E. Kraus.

166. Resistance of the Peritoneum to Trauma.—In the two cases reported the laparotomy wound after Cesarean section burst open without the patient's knowledge and the condition was not discovered until the dressings were changed the next day, but no symptoms of peritonitis followed in one case. The other patient died. Cholmogoroff knows of only twenty-three similar cases on record of complete bursting open of the laparotomy wound. It occurs without pain so that the patients seldom recognize that anything is wrong at the time. In the twenty-one cases in which the outcome is known, five of the patients died. After the peritoneum has been exposed to the air and to contact with a foreign substance, such as gauze or body linen, it seems to acquire a certain resisting power so that it may bear drying out and even lack of asepsis and considerable traumatism without reacting with diffuse peritonitis or ileus.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 23, XXXII, No. 62, pp. 659-666

169 Experimental Research on Action of Drugs on Heart. (Intorno all'applicazione del metodo cardiovolumetrico—fistola pericardica—allo studio dell'azione dei farmaci e delle sostanze chimiche in genere sul cuore.) A. Berti and A. Malesani.

May 25, No. 63, pp. 667-674

170 Treatment of Epilepsy with Nerve Tissue Extract. C. Trevisanello

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Annual Report of the Sanitary Commissioner with the Government of India for 1909. With Appendices and Returns of Sickness and Mortality Among European Troops, Native Troops and Prisoners in India for the Year. Paper. Price, 3 rupees. Pp. 147. Calcutta: Superintendent Government Printing, India, 1911.

Mental Mechanisms. By William A. White, M.D., Author of "Outlines of Psychiatry," Superintendent Government Hospital for the Insane, Washington, D. C. Nervous and Mental Disease Monograph Series No. 8. Paper. Price, $2. Pp. 151. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

Die palpablen Gebilde des normalen menschlichen Körpers und deren methodische Palpation. Nach eigenen Untersuchungen an der Leiche und am Lebenden von Dr. Toby Cohn, Nervenarzt in Berlin. III Teil: Hals und Kopf. Paper. Price, 8 marks. Pp. 585, with 92 illustrations. Berlin: S. Karger, 1911.

Handbook of Diseases of the Eye. A Text-Book for Students and Practitioners. By Harry Caldwell Parker, M.D., Clinical Professor of Ophthalmology, Indiana University School of Medicine, Indianapolis, Ind. Cloth. Price, $2 net. Pp. 303, with 116 illustrations. Philadelphia: F. A. Davis Co., 1910.

Kurzgefasste chirurgische Operationslehre (Operationskurs). Für Studierende und Aertze. Von. Ad. Oberst, Assistent an der Chirurg. Klinik und Privatdozent für Chirurgie an der Universität Freiburg i. Br. Paper. Price, 7 marks. Pp. 198, with 232 illustrations. Berlin: S. Karger, 1911.

Refraction and Motility of the Eye. With Chapters on Color-Blindness and the Field of Vision. Designed for Students and Practitioners. By Ellice M. Alger, M.D., Adjunct Professor of Ophthalmology at the New York Postgraduate Medical School. Cloth. Price, $1.50 net. Pp. 376, with 122 illustrations. Philadelphia: F. A. Davis Co., 1910.

A Text-Book of Chemistry. For Students and Practitioners of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M.S., M.D., Medical Analyst and Microscopist. Second Edition. Cloth. Price, $3.25. Pp. 659, with 114 illustrations. Philadelphia: F. A. Davis Co., 1911.

Internal Secretions from a Physiologic and Therapeutic Standpoint. By Isaac Ott, A.M., M.D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia. Cloth. Price, $1. Pp. 133, with illustrations. Easton, Pa.: E. D. Vogel, 1910.

Neurasthenia. By Gilbert Ballet, Professeur *agrégé* à la Faculté de Médecine de Paris. Translated from the Third French Edition by P. Campbell Smith, M.D. Third Edition. Cloth. Price, $3 net. Pp. 408. New York: William Wood & Co., 1911.

The House-Fly, Disease-Carrier. An Account of Its Dangerous Activities and of the Means of Destroying It. By L. O. Howard, Ph.D. Cloth. Price, $1.60 net. Pp. 312, with 35 illustrations. New York: Frederick A. Stokes Co., 1911.

Ueber Scharlach (der Scharlacherkrankung zweiter Teil). Von Dr. Dionys Pospischill, k. k. Primararzt, und Dr. Fritz Weiss, gew. Assistent der Abteilung. Paper. Price, 5 marks. Pp. 147. Berlin: S. Karger, Karlstrasse 15, 1911.

Year-Book of the Pilcher Hospital. For the Period from March 16, 1910, to March 31, 1911. Being the First Year of the Operation of the Hospital. Paper. Pp. 691, with illustrations. 145 Gates Avenue, Brooklyn, N. Y.

Psychiatrische Vorträge für Aerzte, Erzieher und Eltern. (Zweite Serie). Von Prof. Dr. G. Anton, Direktor der Klinik für Geistes- und Nervenkranke in Halle a. S. Paper. Price, 2 marks. Pp. 77. Berlin: S. Karger, 1911.

Three Thousand Years of Mental Healing. By George Barton Cutten, Ph.D. (Yale), President of Acadia University. Cloth. Price, $1.50 net. Pp. 318, with illustrations. New York: Charles Scribner's Sons, 1911.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by Sir John Batty Tuke, M.D., and James Ritchie, M.D. Volumes X and XI. Cloth. Edinburgh: Oliver & Boyd, 1911.

Handbuch der Biochemie des Menschen und der Tiere. Herausgegeben von Dr. Carl Oppenheimer in Berlin. Twenty-Eighth Instalment. Paper. Price, 5 marks. Pp. 553-712. Vienna: Gustav Fischer, 1911.

Joint Tuberculosis. By Leonard W. Ely, M.D., Consulting Orthopedist to the County Hospital, Denver. Cloth. Price, $2.50 net. Pp. 243, with 72 illustrations. New York: William Wood & Co., 1911.

Précis d'Electrothérapie et de Radiothérapie Oculaires. Par le Dr. A. Leprince (de Bourges). Paper. Price, 3 fr. 50. Pp. 316. Paris: Jules Rousset, 12 Rue Monsieur-le-Prince, 1911.

Annual Report of the Hospital and Outdoor Dispensary Attached to the College of Physicians and Surgeons of Calcutta. For the Year 1909. Paper. Pp. 13.

Studies in the Psychology of Sex. Vol. VI. Sex in Relation to Society. By Havelock Ellis. Cloth. Price, $3 net. Pp. 655. Philadelphia: F. A. Davis Co., 1911.

A List of Books on the History of Science, the John Crerar Library. January, 1911. Prepared by Aksel G. S. Josephson, Cataloguer. Paper. Pp. 297. Chicago, 1911.

Contributions from the William Pepper Laboratory of Clinical Medicine. University of Pennsylvania. (Reprints). No. 7. Philadelphia, 1909-1910. Paper.

Sixteenth Report of the Board of Health of the Town of Montclair, N. J. From Jan. 1, 1910, to Dec. 31, 1910. Paper. Pp. 67.

Annual Report of the Canton Hospital and the South China Medical College for the Year 1910. Paper. Pp. 35.

Calendar of the University of Adelaide. For the Year 1911. Cloth. Price, 2 shillings 6 pence. Pp. 453.

Report of the New York State Veterinary College for the Year 1909-1910. Paper. Pp. 220.

PROCEEDINGS OF THE LOS ANGELES SESSION

MINUTES OF THE SIXTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT LOS ANGELES, CAL., JUNE 26-30, 1911

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 26

The House of Delegates met in the auditorium of the Armory, Los Angeles, Cal., at 10:15 a. m., and was called to order by the President, Dr. William H. Welch, Baltimore.

Dr. D. Chester Brown, Connecticut, presented a preliminary report of the Committee on Credentials. No objection being raised, the report of the committee was accepted.

The Secretary called the roll, and a quorum was present.

The next in order was the reading of the minutes of the Sixty-First Annual Session, which were approved.

Opening Address to House

President Welch then addressed the House of Delegates, speaking as follows:

"The creation of the House of Delegates as a relatively small but sufficiently representative body for legislative action and for the transaction of necessary business is unquestionably one of the greatest improvements which was introduced by the organization effected years ago. In contrast with the old day, effective action of the Association is now made easy, but the very readiness with which suggestions and recommendations from the most varied sources and of every degree of merit can now gain a hearing and legislation can be enacted, carries with it some measure of those possibilities of good and of evil which in an analogous situation are reflected in the hopes and the fears of the people when our federal, state and municipal legislatures are in session.

"So large and potential for good are the powers and responsibilities entrusted to the House of Delegates that too much emphasis cannot be laid on the duty of the constituent associations and sections to select as their representatives the best and wisest men available for the purpose, and such men should be willing at least to take their turn in serving in this capacity. Of the multitude of recommendations and proposals presented, only a relatively small number, even of commendable ones, can be adopted, and the selection of those most worthy requires much wisdom and careful consideration.

Among the considerations which should influence this choice and determine action are the relations of the end in view, however desirable in itself, to the scope and objects of the Association, the broad, national interest, the importance and the timeliness of the proposal, the possibility of obtaining in a reasonable time really valuable results with the men and the resources at command, the concentration of effort on promising projects once undertaken as contrasted with the dispersion of energy and of funds over too large an area and the avoidance of duplication of work already provided for by various other agencies, with which, however, our cooperation may constitute a most useful form of activity.

. As regards matter within the special province of the House of Delegates, the methods most appropriate for the Association to follow and best calculated to secure in the long run enduring results have been well exemplified in the activities of some of the councils and special committees, and have consisted mainly in the thorough study and investigation of conditions and of remedies and in the education of the profession and the public by conferences, reports and published papers and pamphlets. Such are, in my judgment the most fitting and useful direction for the activities of the Association in matters relating to public health and medical and sanitary legislation, where it should be made clear that the medical profession has no interest different from that of the community in general, viz.: the preservation and promotion of the health of the people. We may expect, I believe, large and beneficial results from the work of the Council on Health and Public Instruction, constituted at the last annual session, along lines such as those indicated.

As President, I have recently received a letter from Major-General George W. Davis, chairman of the Central Committee of the American Red Cross, requesting that a committee of the American Medical Association be appointed to consult and advise with a committee of the American Red Cross as to the best arrangements to be made for medical relief in times of disaster. We should esteem it a privilege to cooperate with the Red Cross for such a humane purpose, and I therefore beg to submit to the Reference Committee on the Reports of Officers, with my approval, General Davis' letter which contains certain specific suggestions regarding the proposal.

I desire especially to call the attention of the House to an interesting suggestion, first publicly made, so far as I am aware, by the late Dr. Ellis of Maryland and endorsed by the Medical and Chirurgical Faculty of that state by a resolution referring it to this body. The suggestion is that in connection with the proposed celebration of the completion of the Panama Canal in 1915, there shall be suitable commemoration of the greatest triumph of modern times in the domain of preventive medicine. The sanitary problems in the construction of the canal, were, to say the least, not less difficult, and their triumphant solution constitute an achievement not less memorable, than the problems and the accomplishment of the engineer. It is the glory of American medicine to have contributed through Reed and Carroll and their colleagues the scientific discoveries—and through my predecessor in this office, Colonel Gorgas, the practical application of these discoveries—which will have made possible without large sacrifice of lives the completion of the stupendous undertaking to be celebrated in this state four years hence. This celebration will be neither complete nor worthy without the fullest recognition of the contributions of sanitary science to the successful completion of the isthmian canal. I venture the suggestion that an International Congress of Tropical Medicine, to be held in connection with the Panama-Pacific Exposition in 1915, would afford an opportunity worthily to commemorate the conquest over pestilential diseases on the isthmus and elsewhere in the tropics. I recommend that a special committee be appointed to consider the best mode of commemorating the sanitary work and achievements attending the construction of the isthmian canal, and that this committee be provided with the funds and the authority necessary to the attainment of the desired end.

After his address, President Welch announced the Reference Committees for this session.

Report of the Secretary

The Secretary presented his annual report, which was referred to the Reference Committee on Reports of Officers. It was as follows:

To the Members of the House of Delegates of the American Medical Association:

I submit herewith the secretary's report for the year 1910-1911:

MEMBERSHIP

The membership of the American Medical Association on May 1, 1910, was 34,176. During the past year 335 members have died, 222 have resigned, 462 have been dropped as not eligible, 1,849 have been dropped for non-payment of dues, and 48 have been removed from the rolls on account of being reported as "not found," making a total of 2,916 names to be deducted from the membership list. There have been added 2,700 names to the membership list, of which 2,294 were transferred from the subscription list. The membership of the American Medical Association on May 1, 1911, was 33,960, a net loss for the year of 216.

This would be discouraging without explanation. In their reports, the Trustees have frequently referred to the fact that membership was being recruited almost entirely from those who at first were listed as subscribers. In other words, until the last year, continued efforts were made to get those who were taking THE JOURNAL as subscribers and who were eligible to membership in the American Medical Association to have their names transferred to the membership rolls. For the past year, however, we have relaxed our efforts in this direction on account of the uncertainty of the final ruling of the Post-Office Department regarding the mailing of The Journal to members as such.

MEMBERSHIP OF STATE ASSOCIATIONS

The membership of the various constituent state associations, according to the records in the Secretary's office, May 1, 1911, is shown in the accompanying table:

Component Association in the State of	No. of Counties in State.	No. of Component Societies in State Assn.	Counties not Organized.	No. of Members Reported May 1, 1911.	No. of Members Reported May 1, 1910.	Number gained.	Number lost.
Alabama	67	67	..	1,676	1,738	..	62
Arizona	13	7	6	157	131	26	..
Arkansas	75	63	9	963	989	..	26
California	58	36	21	1,972	2,057	..	85
Colorado	60	25	20	822	811	11	..
Connecticut	8	8	..	841	803	38	..
Delaware	3	3	—	103	108	..	5
District of Columbia	..	..	..	550	548	2	..
Florida	46	24	22	341	339	2	..
Georgia	146	86	52	1,169	1,145	24	..
Idaho	23	4	6	124	116	8	..
Illinois[1]	102	95	3	5,616	5,404	212	..
Indiana	92	87	4	3,107	2,550	557	..
Iowa	99	97	1	1,961	2,081	..	120
Kansas	105	74	17	1,452	1,376	76	..
Kentucky	119	112	6	1,863	1,986	..	123
Louisiana	59	39	18	893	1,068	..	175
Maine	16	13	3	577	574	3	..
Maryland	24	22	2	1,122	1,107	15	..
Massachusetts[2]	14	18	..	3,392	3,302	89	..
Michigan	83	58	6	2,092	2,300	..	208
Minnesota	85	38	..	1,207	1,220	50	..
Mississippi	78	50	8	965	1,001	..	36
Missouri[3]	114	94	15	3,073	2,862	211	..
Montana	28	10	16	234	201	33	..
Nebraska	91	62	26	1,026	1,001	25	..
Nevada	14	6	8	89	59	30	..
New Hampshire	10	10	..	540	594	..	54
New Jersey	21	21	..	1,404	1,340	64	..
New Mexico	26	14	12	246	237	9	..
New York	61	57	3	6,885	6,755	130	..
North Carolina	98	87	4	1,137	1,141	..	4
North Dakota	46	14	5	400	376	24	..
Ohio[4]	88	87	1	3,866	3,934	..	68
Oklahoma	75	68	6	1,132	1,309	..	177
Oregon	34	12	2	445	391	54	..
Pennsylvania[5]	67	63	4	5,487	5,351	136	..
Rhode Island	5	5	..	357	367	..	10
South Carolina	41	40	..	760	740	20	..
South Dakota	64	9	7	265	341	..	76
Tennessee	96	63	33	1,400	1,253	157	..
Texas	243	143	77	3,145	3,080	65	..
Utah	27	6	21	195	210	..	15
Vermont	14	11	3	410	398	12	..
Virginia[6]	100	..	..	1,604	1,604	..	..
Washington	38	23	10	934	870	64	..
West Virginia	55	31	11	861	971	..	110
Wisconsin	71	55	2	1,820	1,730	90	..
Wyoming	15	5	10	122	123	..	1
Canal Zone	..	..	..	72	..	..	..
Hawaii	..	..	..	78	58	20	..
Phillippine Islands	..	..	..	103	95	8	..
Totals	2,917	2,016	489	71,118	70,146		

Note.—The number of members of the different associations stated in this table and the record of gain or loss in membership is in accord with the membership of the several associations as they were reported to the Secretary on the first day of May of 1910 and of 1911.

The lack of an effective uniform system for reporting the membership of the state associations accounts for whatever discrepancies this table shows and detracts from the value of the statement.

Component societies are those societies which compose the state association. A component society may include one county or more.

[1] Chicago (Cook County) Medical Society includes both Cook and Du Page counties.

[2] Massachusetts is divided into district societies, and these are listed in the table as component societies. Some of these districts are smaller and some larger than the county, the county lines being ignored.

[3] There are two component societies in St. Louis County—the St. Louis City and the St. Louis County Medical Societies, each, however, covering definite territory.

[4] This county was organized, but the society has recently been suspended.

[5] Provision is made for the physicians in each of these counties to join the component society in an adjoining county.

[6] Virginia has not adopted the plan of organization. Hence, strictly speaking, it has no component county societies. Members join the state society direct. Estimating the membership of the Virginia Medical Society as 1,604 for each year, the total membership of the organization would be 71,118, an increase over the number reported in 1910 of 972.

ASSOCIATE MEMBERSHIP

Last year the House of Delegates, on the recommendation of the Reference Committee on Constitution and By-Laws, made several modifications in the By-Laws which, if carried out, will interfere seriously with the scientific work of several of the Sections. Until the changes to which I refer were made, we had three classes of associate members, i. e., dentists, pharmacists and scientists, the latter being provided for as follows:

> "Representative teachers, students of the sciences allied to medicine, resident in the United States, and not eligible to regular membership, may become associate members of this Association on recommendation of the officers of the Section and on election by the House of Delegates."

Under the provision of the By-Laws, as modified last year, the last-named class of associate members seems to have been eliminated entirely. The present Section 7, Chapter 1, provides for associate members and includes dentists and pharmacists, but there is no provision whatever for the very class of men who help some of the Sections so much. In fact, if this provision is carried out, it will seriously handicap one or two of the Sections, as these Sections have developed as the result of the work of this class of associate members. The chairman of the Section on Pathology and Physiology wrote: "It will never be possible to enlist the support of physiologists with the heartiness that I should like to see until they are convinced . . . that they are among the 'ins' instead of the 'outs'."

Another very important point should be noticed: there is no definition of these associate members. Are they to pay dues and receive The Journal, as did the old associate, dental and pharmaceutical members? If so, it should be so provided. The old By-Law provided in the old Section 4, Chapter III, Book I, that these associate members "shall enjoy the same privileges as regular members, and shall be subject to the same conditions." The new By-Law contains no definition whatever, so that, to use a slang expression, the "associate" members are "up in the air" as to where they stand.

I appeal to you to restore the old conditions. This can be done by striking out the present "Book 1, Membership," as it appears in the appendix of the Handbook, and substituting that which was "book 1—Membership" prior to the meeting of 1910; except that the words "one of," which followed "retains" in the third line of Section 2, Chapter I of the old by-laws, have been omitted.

UNIFORM REGULATION OF MEMBERS AND TRANSFERS

Ten years have passed since the report of the Committee on Reorganization was adopted at St. Paul; yet the principles that this report emphasized as fundamental have not been carried into effect. I refer particularly to the plan for the transfer of membership from one component society to another, in any state, and the uniform system for recording membership in the various states. The St. Paul report emphasized the principle that when a physician joined his county society he became a member of the "organization;" that no matter where he might go, his membership should follow him. This has not been carried into effect. A member who moves is compelled to seek membership in the society at his new location as though he had never held membership in the organization. Such a condition exists in no other body, so far as I know. Whether it be a trades union, a fraternal order, or a church, a member retains his connection with the organization wherever he may be, and can be transferred without trouble, when he moves from one location to another. A Committee on Uniform Regulation of Membership was appointed in 1908; it made a preliminary report in 1909, and another last year. This year, it recommends that it be re-created, and empowered and directed to perfect a plan for the uniform regulation and transfer of membership. I urge that this recommendation be adopted, for some such plan is vital to effective organization. I am sure that the constituent state associations will give their loyal cooperation.

JUDICIAL COUNCIL

Another matter closely related to the above deserves careful consideration. A reading of the transactions reveals the fact that from the beginning questions of an ethical nature were continually presenting themselves to the association. It is also evident that those that were complex or difficult were seldom or never squarely met. At first such matters were referred to a committee appointed at the annual session, and known as the Committee on Ethics. Experience showed, however, that there was not time at the annual sessions to investigate many of the questions that came up, and that a temporary committee was not satisfactory. Hence, in 1874, a permanent, continuous body—the Judicial Council—was created. It was presumed, of course, that if necessary this Council would hold meetings in the interval between the annual sessions. Such meetings, however, would necessitate either that the Association should pay the expenses of the members, or that the individuals should pay their own expenses. The former was out of the question on account of lack of funds; the latter was not to be expected. And no such meetings were held.

In the reorganization ten years ago, the by-law relating to the Judicial Council was retained, and some of you have personal knowledge of the fact that a quorum at the annual meeting seldom materialized. For three years, 1901 to 1906, a certain case awaited action of the Council, and for three consecutive years a physician personally interested attended the annual sessions to appear before the Council without avail. As it seemed difficult to gather together at the annual session a quorum of the Judicial Council, the by-law was changed in 1907—this, as you know, making the Judicial Council a temporary body, to be appointed each year from the members of the House of Delegates present. The duties and powers of this body under the present by-law are so indefinitely stated that at the very next annual session the chairman of the Council informed the House of Delegates that it had nothing to report because "it is impossible for a case to reach the Judicial Council."

Thus, as a matter of fact, the Judicial Council—which should be one of the most important committees of the Association—has been a failure, and questions of great importance have not been met as they deserve. While the need of such a committee has always been evident, such need is certainly greater to-day than ever before.

Excepting one or two states, there is no control of membership by either the state or the American Medical Association. It is left absolutely with the component county society. As the latter is the portal of admission to the whole organization, the organization should have some check on who may and who may not be admitted. Complaints are made here and there of some excellent physicians who, for personal or other reasons, are kept out of the organization by the component societies. On the other hand, some component societies have admitted and retain as members those who should not be in the organization. The right of appeal, at least to the state society, should be provided for a physician who desires, but is refused, membership; the authority to see that the principles underlying membership are carried out by the county society should lie in the state and the national associations.

The questions of secret division of fees, contract practice, advertising, etc., should be met and given careful, judicious and deliberate consideration. All these, and similar matters belong to a body such as the Judicial Council is supposed to be.

I would, therefore, respectfully urge that the Judicial Council be re-created as a permanent body; that its functions should be made broader than they have been in the past; that it should be authorized to hold such meetings as it may deem necessary; that it be authorized to adopt such rules and methods of procedure as it deems best, to be approved by the House of Delegates; that the Secretary of the Association shall be, ex officio, the secretary of this Council; and that the board of trustees be requested to appropriate so much money as may be necessary to pay the expenses of the members, the last being of fundamental importance if the Council is to be a success.

"ORGANIZATION" AND THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

Among the functions delegated to the Council on Health and Public Instruction last year is "Organization." Organization really belongs to the Secretary's work. It would therefore seem advisable to take the word "Organization" from Section 5, Chapter 9, pp. 19 and 20.

Respectfully submitted,
George H. Simmons, Secretary.

Report of the Board of Trustees

Dr. M. L. Harris, Chairman, read the Report of the Board of Trustees, which was referred to the Reference Committee on Reports of Officers. It was as follows:

To the Members of the House of Delegates of the American Medical Association:

After some months of unavoidable delay due to strikes, etc., the Association was able to move into its new building about the first of the year. The building is a model of construction, being as near fireproof and as perfect in its appointments as it is possible to make it. The Association, therefore, is to be congratulated on its beautiful new home and on the unexcelled facilities which it now possesses for carrying on its work.

However, while thus felicitating ourselves on the magnificence and the excellence of our possession we should not forget that the advantages which accrue therefrom entail on us obligations of like magnitude. To fail to make proper use of the great opportunities for good which are offered us would be a most flagrant dereliction of duty.

As the Association grows in strength and influence its responsibilities increase. These responsibilities rest not alone on the officers of the Association and on the committees but also on every member of this House of Delegates. Nor do these responsibilities cease on the adjournment of the annual session.

The members of this House are representative and influential men from every state in the Union and the Association needs their help and cooperation in furthering its aims not only here during the annual session but also throughout the year in their respective localities.

The House of Delegates in meeting assembled can pass resolutions condemnatory of such practices as the *division* of fees or the use of the public press for self-laudatory purposes which not only derogate from the honor and dignity of the individual but degrade the profession; or it can pass resolutions commendatory of such measures as tend to elevate the educational and ethical standards of the profession; but such resolutions will be productive of little lasting good unless each delegate take it on himself to carry the intent and spirit contained therein back to his own state society and from there to the local societies and cease not his labors until they reach and are approved by every individual member throughout the land.

It is the duty of this body to consider carefully all questions which have a material bearing on the welfare of the profession and of the people along health lines and sufficient time should be devoted to them so that when the conclusions are reached they will show they are the result of mature deliberation.

In an association as large as this and extending over such a large territory it is but natural that there should be honest differences of opinion among its members and a diversity of interests due to local conditions which have a legitimate basis in fact, but these differences should not be permitted to interfere with the accomplishment of the real objects of the Association nor should they embitter anyone toward those who are conscientiously and diligently striving to obtain for all the fruition of these objects.

That the accomplishment of some of these objects would injuriously affect certain interests outside of the profession which have profited by unscrupulous practices was self-evident and it was therefore expected that their opposition, both direct and indirect, would be provoked but the antagonism of such outside interests, whether directed against the Association or against any of its representatives, is harmless and can be easily withstood.

The harmful attacks, however, are those which have their origin within the Association—harmful because an attack from within is a part arrayed against the whole and the whole must certainly suffer as a result of the unharmonious action of its parts.

A sharp distinction should be made between an attack and an expressed difference of opinion. The former is an attempt to do violence, hence is always destructive in its tendency; the latter is an attempt to bring about a favorable change by showing wherein the thing sought to be charged is wrong, hence is constructive in its tendency; the former should be crushed, the latter encouraged.

The Association to-day is confronted by several problems which undoubtedly will give rise to differences of opinion as to their best solution.

One of these problems and one, too, which is worthy of the most earnest consideration by the members of this House of

Delegates is that of membership in this Association. Shall membership in this Association be extended so as to include all those who are members in good standing in a component society? What regulations governing membership shall this Association adopt? It will be remembered that a resolution dealing with this question was introduced in the last House of Delegates and referred to the Board of Trustees with the request that the question of the extension of membership be investigated by the Board and that it report back to the House of Delegates. The Board has submitted the question to the different state associations and, while it awaits the reports from the state associations, it believes the matter should receive thorough discussion in the House of Delegates at this time.

It is not expected that definite action on the matter shall be taken at this session but the various aspects of the subject should be presented and discussed in order that the delegates may become thoroughly familiar with them and thus be able to present the matter more intelligently to their several states.

Another matter of importance is that which relates to the subscription to The Journal by members. Subscription to The Journal is now a membership requirement. This of course would have to be changed if membership is extended as above mentioned. In addition to the regular journal the association is now publishing the *Archives of Internal Medicine* and the *Journal of Diseases of Children* and will soon begin publishing the *Archives of Surgery.*

As each member now receives a copy of The Journal it necessarily happens that duplicate copies are received by firms or families having two or more members. A number of letters have been received from such members asking to be relieved from paying for the superfluous copies. At present however, there is no provision made for such cases. Therefore, in order to meet this situation the Board of Trustees recommends that the By-Laws be so amended as to permit members under those circumstances to have their subscription applied to any one or more of the periodicals above mentioned.

While on the subject of membership attention is directed to a defect in our By-Laws which consists in the omission therefrom of definite rules governing appeals by individuals or by constituent societies from decisions of local societies to a tribunal of this body for definite and final adjudication. This tribunal should constitute in a sense a supreme court which should give final judgment on all matters affecting the constitutional rights of individuals and on matters of principle affecting the interests of the association.

Conditions are constantly arising in different parts of the country which show the need of such a tribunal and also the desirability of investing it with the authority to institute investigations on its own initiative under certain regulations.

It is true the By-Laws now provide for a Judicial Council, but it is not of a permanent character, has no initiative power and its functions are very indefinitely defined. The Board of Trustees, therefore, recommends that the By-Laws be amended to meet the defects mentioned.

ARCHIVES OF INTERNAL MEDICINE

No particular effort has been made during the past year to increase the circulation of the *Archives of Internal Medicine,* but it is very satisfactory. On Jan. 1, 1911, the circulation was 2,133, which shows a slight increase over last year.

Considering the fact that this journal is more technical than of practical value to the general practitioner, this circulation may be regarded as unusually good.

AMERICAN JOURNAL OF DISEASES OF CHILDREN

The first number of the *American Journal of Diseases of Children* was issued in January, 1911. On June 1 the paid circulation was over sixteen hundred—a remarkable showing for a special journal.

The Association button which was adopted by the House of Delegates last year on the recommendation of the committee which had the matter in charge, while very handsome and appropriate from the designer's standpoint, has been found to be impractical from the manufacturer's standpoint. It is therefore referred back to this body for reconsideration to see if a design can be presented which will meet the requirements of economical manufacture.

As has been customary in the past, there will be found appended to this report a complete and comprehensive statement by the auditors showing the financial status of the association for the year ending December 31, 1910.

Respectfully submitted,
Philip Mills Jones,
W. T. Sarles,
C. A. Daugherty,
W. T. Councilman,
W. W. Grant,
Frank J. Lutz,
C. E. Cantrell,
Wisner R. Townsend, Secretary.
M. L. Harris, Chairman.

Addenda to Trustees' Report

SUBSCRIPTION DEPARTMENT

The regular weekly issue of The Journal of the American Medical Association, from Jan. 1, 1910 to Dec. 31, 1910 inclusive, fifty-three issues, was as follows:

January 1	58,254		May 7	60,126	
January 8	55,942		May 14	55,133	
January 15	55,641		May 21	55,164	
January 22	55,176		May 28	55,966	
January 29	55,035				226,389
		280.048	June 4	55,510	
February 5	54,848		June 11	55,302	
February 12	57,023		June 18	55,308	
February 19	56,993		June 25	55,320	
February 26	57,109				221,440
		225,973	July 2	55,555	
March 5	57,143		July 9	55,644	
March 12	57.213		July 16	55,284	
March 19	57,027		July 23	55,621	
March 26	57,317		July 30	55.445	
		228,700			277,549
April 2	57.572		August 6	55,653	
April 9	57,771		August 13	55,679	
April 16	57.279		August 20	55,619	
April 23	57.251		August 27	55,732	
April 30	55,036				
		284,909			222,683
September 3	55,888		November 5	57,260	
September 10	55,799		November 12	57,223	
September 17	55,750		November 19	57,109	
September 24	55,784		November 26	57,236	
		223,207			228,828
October 1	55,542		December 3	59.131	
October 8	55,966		December 10	59,321	
October 15	55,975		December 17	58,581	
October 22	57,019		December 24	58,663	
October 29	57,018		December 31	58,684	
		281,520			294,480
Total issue for twelve months					2,995,726
Weekly average					56,523

The total number of copies issued during 1909 was 2,878,799; thus there was an increase during the year of 116,927 copies.

Percentage of Physicians Receiving The Journal

This table gives the number of physicians (based on the second edition of the American Medical Directory) in the United States, receiving The Journal and the approximate percentage in each state. Copies to physicians in the United States Army, United States Navy, Marine-Hospital Service, etc., are omitted:

State.	Number Receiving Journal.	Physicians in State 2d A. M. A. Dir.	Approx. per cent. 2d A. M. A. Dir.
Alabama	642	2,287	28.
Arizona	140	246	56.9
Arkansas	611	2,535	24.1
California	2,014	4,313	46.6
Colorado	787	1,690	46.5
Connecticut	634	1,424	44.5
Delaware	84	220	38.1
District of Columbia	528	1,231	42.9
Florida	341	786	43.3
Georgia	742	2,887	25.7
Idaho	179	343	52.1
Illinois	5.047	9,744	51.7
Indiana	1,822	5,306	34.3
Iowa	1,760	3,624	48.5
Kansas	1,290	2,650	48.6
Kentucky	1,090	3,708	29.3
Louisiana	757	1,798	42.1
Maine	390	1,198	32.5
Maryland	1,037	2,012	51.5
Massachusetts	2,357	5.577	42.2
Michigan	1,667	4,109	40.5
Minnesota	1,330	2,204	60.3

Mississippi	464	2,054	22.5
Missouri	2,446	6,332	38 6
Montana	229	417	54 9
Nebraska	779	1,776	43.9
Nevada	82	177	46.3
New Hampshire	285	679	41.9
New Jersey	1,160	2,455	47.2
New Mexico	173	367	47.1
New York	4,888	14,117	34.4
North Carolina	550	1,761	31.2
North Dakota	344	552	62.3
Ohio	2,877	7,838	36.9
Oklahoma	716	2,703	26 4
Oregon	398	782	50.8
Pennsylvania	4,478	11,056	40.5
Rhode Island	326	720	45.2
South Carolina	431	1,141	37.7
South Dakota	350	607	57 6
Tennessee	814	3,303	24.6
Texas	1,658	5,789	28 6
Utah	240	359	67.1
Vermont	222	663	33.4
Virginia	833	2,215	37.6
Washington	843	1,404	60.0
West Virginia	614	1,608	38.1
Wisconsin	1,366	2,518	54 2
Wyoming	101	202	50.

The following table shows the number of Members and Subscribers for each year, commencing with 1900:

	Members	Subscribers
January 1, 1900	8,445	4,633
January 1, 1901	9,841	8,339
January 1, 1902	11,107	10,795
January 1, 1903	12,553	12,378
January 1, 1904	13,899	14,674
January 1, 1905	17,570	15,698
January 1, 1906	20,826	17,669
January 1, 1907	26,255	20,166
January 1, 1908	29,382	20,880
January 1, 1909	31,999	18,983
January 1, 1910	33,032	19,832
January 1, 1911	33,540	20,504

The above does not include the ex-officio members, as for instance, the officers of the Medical Department of the Army and the Navy, and the Marine-Hospital Service, since THE JOURNAL does not go to them as individuals. Neither does it include honorary members, exchanges, complimentary copies to libraries, agents, advertisers, etc.

On January 1, 1910, there were 53,729 names on the mailing list and on January 1, 1911, 54,957, showing an increase in the mailing list for the year of 1,228. However, 11,706 additional names were placed on the mailing list, and 10,276 were discontinued on account of death, ineligibility to membership, resignations, non-payment of dues, subscriptions and voluntary discontinuances.

Treasurer's Report

REPORT OF THE TREASURER OF THE AMERICAN MEDICAL ASSOCIATION FOR THE YEAR ENDING DEC. 31, 1910

IN FIRST TRUST AND SAVINGS BANK

RECEIPTS

Jan. 1, 1910—Certificates of deposit at 3 per cent.	$100,000.00	
Feb. 10, 1910—Received from the Editor and General Manager, and placed on certificate deposit, 3 per cent.	40,000.00	
May 11, 1910—Received from the Editor and General Manager, and placed on certificate deposit, 3 per cent.	30,000.00	
		$170,000.00

DISBURSEMENTS

Jan. 17, 1910—Transferred to First National Bank, checking department	$ 45,000.00	
Oct. 10, 1910—Transferred to First National Bank, checking department	45,000.00	
Dec. 10, 1910—Transferred to First National Bank, checking department	15,000.00	
Dec. 17, 1910—Transferred to First National Bank, checking department	25,000.00	
Dec. 31, 1910—Certificate of deposit in First Trust and Savings Bank, date Dec. 9, 1910	40,000.00	
		170,000.00

IN FIRST NATIONAL BANK

RECEIPTS

Jan. 1, 1910—Balance in First National Bank	$ 8,340.72	
Interest on checking account, 12 months	149.00	
Interest on certificates of deposit First Trust and [illegible]	4,218.75	
June [illegible] from First Trust and [illegible]	45,000.00	
Oct. 1 [illegible] from First Trust and Savings Bank	45,000.00	
Dec. 10, 1910—Transferred from First Trust and Savings Bank	15,000.00	
Dec. 17, 1910—Transferred from First Trust and Savings Bank	25,000.00	
Interest on 54 $1,000 bonds at 4 per cent.	2,160.00	
		144,868.47

DISBURSEMENTS

June 17, 1910—Paid requisition Building Account	$ 50,000.00	
Oct. 10, 1910—Paid requisition Building Account	50,000.00	
Dec. 12, 1910—Paid requisition Building Account	20,000.00	
Dec. 31, 1910—Balance in First Nat'l Bank	24,868.47	
		144,868.47

DEC. 31, 1910, PROPERTY OF AMERICAN MEDICAL ASSOCIATION IN HANDS OF TREASURER

Cash balance in checking account First National Bank			$ 24,868.47
Certificate of Deposit at 3 per cent in First Trust and Savings Bank			40,000.00
Bonds in care First Trust and Savings Bank:			
	Cost.	Par Value.	
5-1000 bonds U. P. Ry., 1st 4s.	$ 5,207.50	$ 5,000.00	
5-1000 bonds Erie Ry., 1st 4s.	4,932.50	5,000.00	
10-1000 bonds Reading Cen. 1st 4s	9,602.50	10,000.00	
14-1000 bonds Chicago Sch. 1st 4s	15,168.13	14,000.00	
10-1000 bonds A. T. & S. F. 1st 4s	9,521.25	10,000.00	
10-1000 bonds B. & O. Ry. 1st 4s	9,800.00	10,000.00	
	$54,231.88	$54,000.00	54,000.00
			$118,868.47

Respectfully submitted,
FRANK BILLINGS, Treasurer.

Auditor's Report

MARWICK, MITCHELL & CO., CHARTERED ACCOUNTANTS
79 WALL STREET

NEW YORK, Jan. 31, 1911.

To the Board of Trustees of the American Medical Association, Chicago, Ill.

Dear Sirs:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended Dec. 31, 1910, on which we now submit our report, together with the statements detailed in the index appended hereto.

We examined the securities representing the investments of the Association and counted the cash on hand. The cash in banks was verified by certificates from the bankers.

The disbursements were vouched and found in order and a satisfactory test of the revenue of the Association was made.

The balance sheet now submitted is, in our opinion, a full and fair statement of the financial position of the Association as at Dec. 31, 1910, and as shown by the books; subject to the qualification that no provision has been set aside for accrued taxes, and subscriptions and memberships paid in advance, which are partially offset by unpaid subscriptions and memberships, earned but not included in the accounts.

The following is a comparative condensed balance sheet as at Dec. 31, 1910 and 1909:

	DECEMBER 31			
Assets:	1910	1909	INCREASE	DECREASE
Property and Plant	$288,833.66	$173,081.86	$115,751.80	....
Biographical Information	1,546.83	....	1,546.83	....
Investments	94,231.88	154,231.88	....	$60,000.00
Current and Working	64,948.87	71,688.31	....	6,739.44
Prepaid Accounts	1,072.32	460.11	612.21	....
Total Assets	$450,633.56	$399,462.16	$ 51,171.40	....
Liabilities	2,104.18	2,926.95	....	$ 822.77
Surplus	$448,529.38	$396,535.21	$ 51,994.17	....

The increase in surplus, $51,994.17, represents the net income for the year under review, particulars of which are recorded in Exhibit "B."

During the year under review depreciation aggregating $47,306.83 has been written off the property accounts. Of this, $16,292.66 applies upon the new buildings and the machinery, plant, etc., while the remainder, $31,014.17, is upon the old building, which is not now used in connection with the operation of the business. After the application of this latter sum the old building, including the site, appears in the accounts at $42,000.00.

We are pleased to report that the records of the Association are maintained in a careful and efficient manner.

We desire to record our appreciation of the courtesies extended to us during the course of our examination. Yours truly,

MARWICK, MITCHELL & CO., Chartered Accountants.

EXHIBIT "A"

BALANCE SHEET AS AT DEC. 31, 1910

ASSETS

Property and Plant:		
Real Estate and Buildings		$226,657.65
Machinery		38,822.55
Type and Metal		11,179.31
Furniture and Fixtures		8,477.68
Laboratory		1,015.60
Stereotype Plant		1,495.26
Library		1,185.61
Total Property and Plant		$288,833.66
Biographical Information		1,546.83
Investments:		
Bonds at Cost (Schedule "1")	$54,231.88	
Certificates of Deposit	40,000.00	
Total Investments		94,231.88

Current and Working Assets:			
Material and Supplies as per Inventory		8,280.04	
Accounts Receivable:			
Advertising	$19,794.02		
Books	1,199.00		
Reprints	893.10		
Directory	130.95		
Jobbing and Miscellaneous	2,547.10	24,564.17	
Bills Receivable		132.65	
Cash in Banks and on Hand:			
The First National Bank of Chicago	$24,868.47		
Continental and Commercial National Bank of Chicago	4,944.52		
Cash on Hand	2,100.02		
Office Fund	50.00	31,963.01	
Total Current and Working Assets			64,948.87
Prepaid Accounts:			
Insurance		$ 247.77	
Unissued Publications		700.17	
Los Angeles 1911 Session		124.38	
Total Prepaid Accounts			1,072.32
Total			$450,633.56

LIABILITIES

Miscellaneous Accounts Payable		$ 132.78
Advance Payments on Publications		1,971.40
Surplus:		
As at Dec. 31, 1909	$396,535.21	
Net Income for Year ended Dec. 31, 1910	51,994.17	448,529.38
Total		$450,633.56

EXHIBIT "B"

Income Account for the Year Ended Dec. 31, 1910

Revenue:		
Membership Dues		$ 51,597 38
Journal Subscriptions		207,974.45
Journal Advertising		164,492.72
St. Louis Session		11,304.15
Jobbing		4,750.52
Books		2,531.33
Reprints		2,487.07
Physicians' Manual		764.42
New and Nonofficial Remedies		317.62
Buttons		294.92
Binders		175.60
Waste Paper, etc.		3,652 57
Total		$450,342.75
Less Archives of Internal Medicine		37.28
Gross Revenue		$450,305.47
Expenses:		
General and Operating Expenses (Schedule "2")	$302,279.94	
St. Louis Session	11,968.89	
Provision for Depreciation (Schedule "3")	16,292.66	330,541.49
Net Revenue		$119,763.98
Other Income:		
Interest:		
On Bonds	$ 2,160.00	
On Treasurer's Account	4,367.75	
On Bank Balance	1,076.56	
	$ 7,604.31	
Loss on Bad and Doubtful Accounts and *Notes less Recoveries*	1,071.22	6,533.09
Gross Income		$126,297.07
Deductions from Income:		
Association Expenditures (Schedule "4")	$ 40,350.34	
Second Edition Directory	2,938.39	
Depreciation on old Building not now used in operations of business	31,014.17	74,302.90
Net Income		$ 51,994.17

SCHEDULE "1"

Bonds as at Dec. 31, 1910

No.	Description and Particulars	Par Value	Cost
5	Atchison, Topeka & Santa Fe Ry. Co. 4 per cent. 100-year gold bonds	$ 5,000.00	$ 4,988.75
5	Erie Railroad Co. 4 per cent. 100-year gold bonds	5,000.00	4,932.50
5	Baltimore & Ohio Ry. Co. 4 per cent. first mortgage	5,000.00	5,032 50
5	Reading Company 4 per cent. general mortgage	5,000.00	4.870 00
5	Union Pacific Railroad Co 4 per cent. first mortgage	5,000.00	5,207.50
14	City of Chicago 4 per cent. school bonds.	14,000.00	15,168.13
5	Reading Co. and the Philadelphia & Reading Coal and Iron Co. 4 per cent. general mortgage, par value $1,000.00 each, at 94½	5,000.00	4,732.50
5	Atchison, Topeka & Santa Fe Ry Co. 4 per cent. first mortgage bonds, payable April and October, principal due 1995, Nos. 32785, 35162, 40517, 40516 and 40515, par value $1,000.00 each, at 90½	5,000.00	4,532.50
5	Baltimore & Ohio Ry. Co. 4 per cent. first mortgage bonds, payable April and October, principal due 1948, Nos. 53591, 53594, 53593, 34986 and 34987, par value $1,000.00 each, at 95	5,000.00	4,767.50
	Total	$54,000.00	$54,231.88

SCHEDULE "2"

General and Operating Expenses for the Year Ended Dec. 31. 1910

Pay-roll		$120,172.98
Materials and Supplies:		
Paper	$ 87,778.94	
Ink	3,253.14	
Electrotypes	3,070.81	
Binding	141.25	
Miscellaneous Supplies	4,979.68	99,223.82
Editorials, News and Reporting		8,891.05
Postage:		
Second Class	$ 22,130.16	
General	10,825.13	32,955.29
Commissions:		
Journal	$ 8,502.33	
Buttons	265.09	
Collection Commission	2,900.34	11,667 76
Plant:		
Repairs and Renewals	$ 2,077.54	
Power	2,293.31	
Light	2,954.73	
Fuel	1,116.54	
Building Maintenance	236.22	
Supplies	2,576.27	11,254.61
Insurance and Taxes		2,956.83
Discount		4,364.62
Express and Cartage		1,619.54
Agents' Salaries		890.00
Exchange		1,228.65
Legal		983.52
Office Printing and Stationery		1,951.37
Office Supplies		592.26
Telephone and Telegraph		340.23
Journals Returned		43.65
Traveling Expenses		392.65
Complimentary Reprints		192.65
Miscellaneous		2,558.46
Total		$302,279.94

SCHEDULE "3"

Provision for Depreciation for the Year Ended Dec. 31, 1910

Classification	*Amount*
Building—New	$ 10,000.00
Machinery	4,313.62
Furniture and Fixtures	663.45
Type	427.98
Metal	380.55
Factory Fixtures	228.24
Stereotype Plant	166.14
Laboratory Equipment	112.68
Total	$ 16,292.66

SCHEDULE "4"

Association Expenditures for the Year Ended Dec. 31, 1910

Association	$ 9,970.32
Organization	7,882.30
Medical Education	5,194.37
Medical Legislation	2,799.05
Pharmacy and Chemistry	8,756.32
Health and Public Instruction	3,220.64
Educational	1,796.45
Defense of Medical Research	730.89
Total	$ 40,350.34

Report of the Council on Health and Public Instruction

Dr. Henry B. Favill, Chicago. Chairman, read the report of the Council on Health and Public Instruction, which was referred to the Reference Committee on Medical Legislation. The report was as follows, including all the subcommittees of the Council:

To the Members of the House of Delegates of the American Medical Association:

This Council was created at the 1910 session, as the result of the report of a committee appointed at the 1909 session at Atlantic City. The standing Committee on Medical Legislation, the Board of Public Instruction on Medical Subjects, the Council on Defense of Medical Research and the Committee on Organization were merged in this council, to which was added the Committee on Uniform Regulation of Membership, the Committee on Visual Standards of Pilots, the Public Health Education Committee, the Committee on Prevention of Blindness and the Committee on Postgraduate Study Work. The first meeting of the Council was held in Chicago Friday, July 8, 1910, and the term of service of the members was determined by lot as follows: Dr. Henry B. Favill to serve until 1911; Dr. W. B. Cannon, 1912; Dr. J. N. McCormack, 1913; Dr. Henry M. Bracken, 1914; Dr. W. C. Woodward, 1915. Dr. Henry B. Favill was elected chairman and Dr. Frederick R. Green was nominated to the trustees as secretary, which nomination was confirmed by the Board of Trustees. The following bureaus were established, with one member of the council in charge of each: Legislation, Dr. W. C. Woodward; Organization, Dr. J. N. McCormack; Publicity, Dr. Henry B. Favill; Protection of Medical Research, Dr. W. B. Cannon; Public Health, Dr. H. M. Bracken. Inauguration of the work of the Council was necessarily deferred until after the October meeting of the Board of Trustees, October 21, at which time an appropriation was made for the use of the Council. This report, therefore, really covers only the seven months from Nov. 1, 1910, to June 1, 1911.

The work of the Council will be taken up under the following heads: (A) Work of the various bureaus subordinate to the Council; (B) Work of the various sub-committees subordinate to the Council.

A. WORK OF THE COUNCIL AND ITS BUREAUS

(1) BUREAU OF ORGANIZATION

The organization work of the Council has been, as heretofore, in charge of Dr. J. N. McCormack. During the past year, Dr. McCormack has held meetings and delivered public addresses as follows: October 3-31, Oklahoma. Public meetings were held in twenty-nine cities of the state at which Dr. McCormack delivered an address on public health. Meetings of the county medical society were also held in each city which Dr. McCormack visited, at which meetings he talked to the local medical profession on medical organization. New Mexico, November 2-13. Addresses were made to the public and the profession in eight cities. From November 14 to 28, ten meetings were held in Arizona. December and January were passed in Washington. On January 21, Dr. McCormack began a series of meetings in North Carolina, speaking at ten cities in the state. February 12-26 was devoted to Georgia, fourteen meetings being held; from April 24 to May 10, ten meetings were held in South Carolina. On May 11, Dr. McCormack attended the annual meeting of the Florida State Medical Association and delivered a public address at Tallahassee. On May 16, he addressed a large meeting in Buffalo, May 17, Niagara Falls, May 18, Albany, May 22, Bridgeport, Conn., and May 24, Winchester, Va. On June 10, he began a tour of Texas, speaking at ten cities from June 10 to 21. During the year Dr. McCormack has visited ninety-seven cities in eleven states and has delivered addresses in each.

The great value of Dr. McCormack's work as a means of instructing and enlightening both the profession and the public is too well known to require comment. Careful preparation for these meetings were made beforehand in accordance with the plan followed for the past five years, and in practically all instances large and enthusiastic audiences, composed of representative citizens of the community, have benefited by Dr. McCormack's work. The value of these meetings in educating public sentiment is becoming every year more apparent. The attitude of the public is shown not only by the large attendance but also by the appreciative newspaper comments and editorials which have appeared in the local press. It is also noticeable that the public support and the newspaper commendation given to Dr. McCormack's work has been greater in those states in which he has spoken a second time than in those in which he has made his first appearance. The public is eager to be enlightened on sanitary and public health matters and is showing increased appreciation of the efforts of the Association in this direction. The Council is considering the advisability of putting a number of speakers in the field, as the work to be done is far too great for the strength of one man.

(2) BUREAU ON PROTECTION OF MEDICAL RESEARCH

The Bureau for the Protection of Medical Research has continued the publication of articles and pamphlets, written by authorities, and giving reliable information about animal experiments. During the past year the following pamphlets, in addition to the thirteen previously reported, have been published:

Animal Experimentation in Relation to Practical Medical Knowledge of the Circulation. Joseph Erlanger.
The Relation of Animal Experimentation to Our Knowledge of Plague. George W. McCoy.
Medical Control of Vivisection. Walter B. Cannon.
Immunology: A Medical Science Developed Through Animal Experimentation. Frederick P. Gay.
Obstetrics and Animal Experimentation. J. Whitridge Williams.
Some Characteristics of Antivivisection Literature. Walter B. Cannon.
Animal Experimentation in Relation to Epidemic Cerebrospinal Meningitis. Charles Hunter Dunn.
The Value of Animal Experimentation as Illustrated by Recent Advances in the Study of Syphilis. John W. Churchmann.

There has been a considerable demand for these and for previously published numbers of the series, so that reprinting some of the pamphlets has been necessary.

By diffusing literature, by speaking at public meetings, and by appearing at legislative hearings, members of the bureau have helped toward a better understanding of the methods and purposes of animal experimentation and have resisted attempts to secure hostile legislation. The only states in which serious efforts were made this year to enact bills opposing laboratory investigation were Pennsylvania and New York.

The plan of the bureau to control laboratory procedures, in a manner satisfactory to reasonable people, by regulations adopted by the corporate bodies which include the laboratory workers, has been given wide publicity during the year. Favorable comment on the precautions thus taken to prevent unnecessary discomfort in animals used for experimentation has been made both in the daily press and in influential weekly publications.

The plans for the establishment of a society of laymen for the promotion of medical research, mentioned a year ago, have not gone further, though an attempt may be made during the next few months to form such an organization.

A large number of copies of the twenty pamphlets prepared by the Bureau for public distribution have been circulated. Copies have been sent to members of legislative committees for distribution to members of state legislatures, as well as to several educational institutions for distribution to students.

(3) BUREAU ON MEDICAL LEGISLATION

When the annual convention of the Association adjourned at St. Louis, in June last, it was hoped that before Congress met in the following December the special committee created by the Association for that purpose might have formulated a bill for the organization of the federal health services that would receive the unqualified support of all persons interested in the conservation and improvement of the public health. The organization of that special committee was, however, delayed, and whatever it has done with respect to federal sanitary organization the Council has been compelled to do without the advantage of such light as that committee's labors might have thrown on the subject. The Sixty-First Congress adjourned without anything having been accomplished, but fortunately no obstructive legislation was enacted. On the opening of the Sixty-Second Congress, the very first bill to obtain a place on the Senate Calendar was A Bill to Establish a Department of Health, and for other purposes, which was introduced by Senator Owen. As, however, Congress, in special session now in progress, is not taking up any general legislation except that for the consideration of which the session was convened, no action has yet been taken with respect to this bill except to refer it to the proper committee. The Council deems it proper here to call attention to the debt which the medical profession and the public owes to Senator Owen for his efforts on behalf of an improved federal health organization. Not only has he identified himself with all efforts that have been made to improve that branch of the federal government, taking the initiative himself whenever that seemed to be the most effective way of proceeding, but it was through his initiative and effort that the Senate provided increased compensation for the commissioned officers in the existing Public Health and Marine-Hospital Service. Unfortunately, however this measure failed in the House of Representatives.

State Legislation

During the past winter the legislature has been in session in thirty-six states. A large number of bills were introduced dealing with public health, vital statistics, the regulation of the practice of medicine and the establishment of sectarian boards. The following summary only includes the more important measures adopted or defeated:

Alabama:—The medical practice act was amended making it unlawful for physicians to advertise so as to mislead the public.

Arkansas:—The public health bill, prepared by the Arkansas Medical Society establishing a state department of health, has become a law. The model vital statistics bill of the American Medical Association was incorporated in this bill. A bill was also passed to consolidate the medical college of the University of Arkansas and the College of Physicians and Surgeons and turn these two schools over to the board of trustees of the State University.

Connecticut:—Two optometry bills and an antivivisection bill failed to pass.

Illinois:—A bill to abolish common drinking-cups and a bill to amend the medical practice act became laws. The vital statistics bill failed to pass. A number of optometry and osteopathic bills also failed to pass.

Iowa:—Bills to make appropriations for free distribution of antitoxin and for vital statistics, to authorize the sterilization of criminals and to require the disinfection of premises occupied by tuberculous patients became laws. The osteopathic bill and the bill to reorganize the state board of health were defeated.

Kansas:—The model vital statistics bill become a law.

Maine:—A revised medical practice act was passed and an osteopathic bill was defeated.

Michigan:—A bill to require the recording of all cases of tuberculosis and a Sane Fourth of July bill became laws. A chiropractic bill was defeated.

Missouri:—An optometry bill was defeated.

Nebraska:—A number of bills to make liberal appropriations for state institutions were passed.

New Hampshire:—A bill to consolidate the three existing medical boards failed to pass, also an osteopathic bill. The optometry bill and a bill to abolish the common drinking cup became laws.

North Dakota:—A new medical practice act was passed.

Oklahoma:—An optometry bill was passed.

Pennsylvania:—An optometry bill was defeated and a bill to provide for a single board of medical examiners is still under consideration.

Texas:—The sanitary code drafted by the state board of health and incorporating the model vital statistics' bill was enacted as a part of the statutes.

Utah:—A new medical practice act was passed, also a bill to require the reporting of all cases of ophthalmia neonatorum.

The Council, through its Bureau of Medical Legislation, has cooperated with the state legislative committees, sending them information and material whenever requested. Particularly valuable in this work has been the special optometry number of the bulletin prepared by a committee consisting of Drs. J. C. Bossidy, George W. Gay and James Thorington. This bulletin was issued under date of Nov. 15, 1910, and large quantities of it were distributed to members of committees in states in which optometry bills were introduced.

At the request of the Council, the attorneys for the Association have prepared an exhaustive brief on "Chiropractic," which was prepared originally for the assistance of the secretary of the Michigan State Board of Medical Examination and Registration. This brief contains a carefully considered legal argument based on supreme court decisions, to the effect that Chiropractic is the practice of medicine and that the followers of this cult are amenable to the medical practice laws. Copies of this pamphlet have been sent to the secretaries of all state examining boards and in a number of instances to the counsel of the board as well.

The compilation and abstracting of supreme court decisions on medical practice acts has been practically completed and the matter is now in the hands of the printer. It is hoped that in a short time a digest of over three hundred supreme court decisions can be issued for the guidance and assistance of the officers of medical examining and licensing boards. As soon as this volume is completed it is the intention of the secretary to prepare a similar volume on supreme court decisions on public health laws. Such a work is badly needed and will be of great assistance to state and municipal health officers.

The organization of the National Legislative Council and of the National Auxiliary Legislative Committee has been maintained and the bureau has been in constant communication with members of these two bodies in the different states.

On February 28 and March 1 and 2, the Annual Conference on Medical Legislation was held in conjunction with the Council on Medical Education. The first day of the session was devoted to medical education, the second day to a joint conference on state regulation of the practice of medicine and the third day to the annual meeting of the National Legislative Council. The attendance at this joint conference was gratifying, 158 being registered as in attendance.

(4) BUREAU ON PUBLIC HEALTH

While all the work of the Council has been indirectly of value to public health, no new work in this direction has been taken up as yet.

(5) BUREAU ON PUBLIC INSTRUCTION

Probably the most important new line of work taken up by the Council has been the preparation and distribution of regular bulletins to the newspapers of the country on public health matters. A selected mailing list has been compiled, composed of (a) daily newspapers having a circulation of 3,000 or over—888; (b) daily newspapers having a circulation of under 3,000—1,230; (c) selected weekly newspapers in counties in which no daily is published—1929; (d) religious—127; (e) agricultural—229; (f) educational—73; (g) labor—218; (h) fraternal—87; (i) miscellaneous—37; total—4,818. Since the first of January regular weekly bulletins have been sent out, comprising originally the first list compiled, viz., that of dailies of over 3,000 circulation and later of both the lists of dailies as well as occasional bulletins to selected class publications. Previous to the first of January a number of bulletins were sent out, as experiments, on the following topics: "Typhoid Fever in Milwaukee," "Vital Statistics a Business Asset," "Fourth of July Injuries" (an abstract of the eighth annual summary of Fourth of July injuries reported in The Journal for Sept. 3, 1910, as well as a reprint of the entire article, the latter bulletin being given wide circulation). An idea of the scope of the work since the first of January can be gained from the following titles of bulletins sent out:

January 6—Typhoid Fever in Des Moines.

January 13—Consumption-Cure Fakes.

February 3—Prevention of Fourth of July Tetanus; Nature's Creation, a Consumption-Cure Fraud.

February 10—Need of Caution in the Use of Salvarsan; Advertising Salvarsan to the Public; The Truth About "606."

February 25—Weak Medical Schools as Nurseries of Medical Genius.

March 24—Occupational Diseases; Professor Vincent and Higher Educational Standards; Vaccination and Small-Pox in Japan; Announcement of the Prize Cartoon Contest.

April 1—Compressed-Air Illness and Its Prevention; Sex Instruction in the Schools; Hygiene in the Army on the Border; Proportion of Physicians to Population in the United States.

April 8—White Phosphorus; State Responsibility in Medical Education; Vaccination in the Philippines; Governor Osborn for Honest Advertising; Ministers Demand More Rigid Laws; A German View of American Medical Schools.

April 15—Individual Liberty and the Public Welfare: Sociology in Medicine; Factors in Railway Accidents; Commercial Untruthfulness; Animal Experimentation by Clergyman Scientist; Uniformity in Death Certificates; The Reformed Almanac as a Health Evangelist.

April 21—Some Problems of School Inspection; Money for Medical Education; A New Owen Bill; Applied Ethics in Journalism; Founded on Falsehood. (A comment on a case before the United States Supreme Court involving the National Food and Drugs Act.)

April 28—Lead Poisoning in Illinois (an article based on the work of the Illinois Commission on Occupational Diseases. This bulletin was sent to all the labor journals of the country).

April 28—Public Health Personnel Bills; Self-Supporting Cripples; Universities as Object Lessons in Hygiene.

May 12—President Taft's Message to Physicians; Life-Saving Abroad and Life-Wasting at Home; Public Hygiene and Private Practice; The President Versus *Life;* Human Fallibility; Child Welfare Exhibits; Saccharin, an Adulterant.

May 12—Man Suffering from Glanders Recovers; The Rockefeller Commission for the Eradication of Hookworm Disease.

May 19—The Wisconsin Pure Food Law Not Emasculated; The Use of Orange-Red Underclothing in the Tropics; The Problem of Pure Milk; Making Room for City Parks; Free Dispensaries for Hookworm Disease.

May 19—Benzoate of Soda Forbidden in Prussia; Magic Foot Drafts, a Fake; Tucker's Asthma Specific a Dangerous Cocain Mixture.

May 26—State Medical Examining Board Examinations in 1910 (a summary of the Annual State Board Number of The Journal, containing the statistics compiled by the Council on Medical Education and a classified list of colleges arranged according to percentage of failures); The Opium Problem, Oriental and Occidental; The Plague; To Save the Babies; Progressive Medical Legislation; Nostrum Promoting as Short-Story Material; Mud Therapy; The Educational Function of Hospitals; A Good Doctor.

The most gratifying feature of the Press Bulletin service has been the readiness with which newspaper editors have utilized the material sent them. There has been a marked increase in the number of newspapers using such matter, even in the five months that the Press Bureau has been in operation. Appreciative and encouraging letters received from many editors indicate that the time is ripe for such a movement.

The question of preparing short articles on public and personal health matters, for distribution to newspapers, is also under consideration. There are a number of practical difficulties to overcome, but it is hoped that plans can be devised during the coming year by which the press of the country can be supplied with sound, up-to-date scientific matter on hygiene, prepared for popular understanding.

COOPERATION WITH STATE BOARDS OF HEALTH

It seemed obvious to the Council that in inaugurating plans for public education it should carefully avoid encroaching on fields already occupied by existing health agencies, either state, municipal or philanthropic, and that its work should rather consist of developing new fields and cooperating with and coordinating existing health agencies. One of the most common and effective methods of public education is the distribution of pamphlets containing matter adapted for popular comprehension regarding disease and its prevention. In order to ascertain exactly what was being done in this direction by state boards of health a circular letter and a blank form was sent to each state board secretary on April 26, asking for information regarding the number of pamphlets published by the board and the number of each distributed to the public. Replies received from all except Florida, Georgia and South Dakota show that thirty-four state boards are distributing material in some form to the public and that many boards are sending out large quantities of pamphlets on many subjects. A summary of the reports received follows:

Public Education Pamphlets Issued by State Boards, Arranged by States

Alabama.—No pamphlets issued at present.

Arizona.—No pamphlets issued.

Arkansas.—Board just reorganized; no pamphlets issued.

California.—Tuberculosis, meningitis, care of infants, small-pox, vaccination, malaria, diphtheria, pure food, flies, hookworm, scarlet fever, measles, sex hygiene, poliomyelitis, ophthalmia neonatorum, common drinking cup, adenoids, school hygiene, whooping-cough, pneumonia, cancer, bubonic plague, municipal problems, sewage disposal, tropical diseases.

Colorado.—No pamphlets issued.

Connecticut.—Circulars and bulletins issued, subject not specified.

Delaware.—No pamphlets issued.

District of Columbia.—Tuberculosis, flies.

Florida.—No report.

Georgia.—No report.

Idaho.—Tuberculosis, flies, measles, poliomyelitis, whooping-cough, typhoid, sanitary privies.

Illinois.—Tuberculosis, care of infants, small-pox, vaccination, diphtheria, flies, scarlet fever, measles, poliomyelitis.

Indiana.—Tuberculosis, care of infants, small-pox, vaccination, diphtheria, pure food, flies, scarlet fever, measles, sex hygiene, poliomyelitis, ophthalmia neonatorum, common drinking cup, adenoids, school hygiene, whooping-cough, pneumonia.

Iowa.—Tuberculosis, care of infants, small-pox, vaccination, diphtheria, pure food, flies, scarlet fever, poliomyelitis, common drinking cup, pneumonia, typhoid, pollution of streams, pure milk, tuberculosis among dairy herds, sanitary bakeries, cats as carriers of disease, two-wheeled push carts.

Kansas.—Tuberculosis, care of infants, vaccination, diphtheria, pure food, flies, scarlet fever, measles, poliomyelitis, ophthalmia neonatorum, common drinking cup, whooping-cough, typhoid, pure drugs, water and sewage.

Kentucky.—Tuberculosis, small-pox, diphtheria, scarlet fever, ophthalmia neonatorum, typhoid.

Louisiana.—Tuberculosis, care of infants, vaccination, pure food, flies, hookworm, common drinking cup, adenoids, school hygiene, care of teeth, sanitary privies, sanitation of buildings (6) disinfectants, dairies, habit-forming drugs, health hints, condensed milk.

Maine.—Pamphlets, subjects not specified.

Maryland.—Tuberculosis, care of infants, vaccination, malaria, diphtheria, pure food, flies, scarlet fever, measles, sex hygiene, poliomyelitis, ophthalmia neonatorum, whooping-cough, pneumonia, typhoid.

Massachusetts.—Tuberculosis, poliomyelitis, ophthalmia neonatorum, common drinking cup.

Michigan.—Tuberculosis, *meningitis, care of infants, small-pox*, vaccination, diphtheria, pure food, scarlet fever, measles, common drinking cup, adenoids, school hygiene, whooping-cough, pneumonia,, cancer, typhoid, resort sanitation, rabies, spitting, tetanus, treatment of the drowned.

Minnesota.—Tuberculosis, small-pox, vaccination, diphtheria, flies, hookworm, scarlet fever, measles, municipal lodging houses.

Missouri.—No pamphlets issued.

Montana.—Tuberculosis, small-pox, vaccination, diphtheria, flies, scarlet fever.

Nebraska.—No pamphlets issued.

Nevada.—No state board of health.

New Hampshire.—Tuberculosis, diphtheria, flies, scarlet fever.

New Jersey.—Tuberculosis, small-pox, vaccination, malaria, diphtheria, pure food, flies, measles, ophthalmia neonatorum, contagious diseases of animals, transporation of the dead, anthrax.

New Mexico.—No pamphlets issued.

New York.—Tuberculosis, meningitis, small-pox, vaccination, diphtheria, flies, scarlet fever, measles, poliomyelitis, common drinking cup, school hygiene, whooping-cough, cancer, typhoid.

North Carolina.—Tuberculosis, malaria, flies, hookworm, typhoid, sanitary privies, septic tanks, sanitary care of water-sheds.

North Dakota.—Tuberculosis, care of infants, flies, poliomyelitis, typhoid, slaughter-houses, ventilation, hygiene of the eye and ear, spitting, pure ice.

Ohio.—Tuberculosis, care of infants, small-pox, vaccination, diphtheria, scarlet fever, ophthalmia neonatorum.

Oklahoma.—Tuberculosis, care of infants, small-pox, vaccination, pure food, flies, measles, poliomyelitis, ophthalmia neonatorum, common drinking cup, whooping-cough, pneumonia, typhoid.

Oregon.—Tuberculosis, small-pox, vaccination, pure milk, rabies, slaughter-houses, meat inspection.

Pennsylvania.—Tuberculosis, care of infants, small-pox, vaccination, flies, poliomyelitis, school hygiene, bubonic plague, rabies, cancer, board of health work, water-supply, general health pamphlets.

Rhode Island.—Subjects of pamphlets not specified.

South Carolina.—Tuberculosis, vaccination, measles, diphtheria, flies, hookworm, scarlet fever, measles, poliomyelitis, common drinking cup, whooping-cough, typhoid, school inspection, pellagra, clean-up day.

South Dakota.—No pamphlets issued.

Tennessee.—Tuberculosis, small-pox, vaccination, malaria, pure food, flies, hookworm, scarlet fever, measles, poliomyelitis, ophthalmia neonatorum, common drinking cup, adenoids, school hygiene.

Texas.—Small-pox, diphtheria, scarlet fever.

Utah.—Tuberculosis, meningitis, care of infants, vaccination, diphtheria, *pure food*, scarlet fever, poliomyelitis, common drinking cup, school hygiene, whooping-cough, pneumonia, typhoid.

Vermont.—Tuberculosis, diphtheria, pure food, scarlet fever, measles, ophthalmia neonatorum, common drinking cup, whooping-cough.

Virginia.—Tuberculosis, care of infants, vaccination, diphtheria, flies, hookworm, scarlet fever, measles, school hygiene, whooping-cough, cancer, typhoid, pure water, sanitary privies, summer troubles.

Washington.—Tuberculosis, small-pox, flies, poliomyelitis, typhoid.

West Virginia.—Tuberculosis, small-pox, diphtheria, pure food, scarlet fever, measles.

Wisconsin.—Tuberculosis, care of infants, small-pox, diphtheria, flies, scarlet fever, poliomyelitis, ophthalmia neonatorum, common drinking cup.

Wyoming.—Tuberculosis, meningitis, small-pox, diphtheria, pure food, scarlet fever, measles, typhoid.

Public Health Pamphlets Issued by State Boards, Arranged by Subject

Tuberculosis.—California, District of Columbia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Utan, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.
Total number of states, 33.
Estimated number of pamphlets issued in 1910, 600,000.

Meningitis.—California, Michigan, New York, Utah, Wyoming.
Total number of states, 5.
Estimated number of pamphlets issued in 1910, 5,000.

Care of Infants.—California, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, North Dakota, Ohio, Oklahoma, Pennsylvania, Utah, Virginia, Wisconsin.
Total number of states, 16.
Estimated number of pamphlets issued in 1910, 100,000.

Small-Pox.—California, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Montana, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Washington, West Virginia, Wisconsin, Wyoming.
Total number of states, 19.
Estimated number of pamphlets issued in 1910, 70,000.

Vaccination.—California, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Montana, New Jersey, New York, Ohio, *Oklahoma*, Oregon, Pennsylvania, South Carolina, Tennessee, Utah, Vermont.
Total number of states, 21.
Estimated number of pamphlets issued in 1910, 110,000.

They have determined to make this "Doctor's Day" an annual event.

The committee work is conducted by the members of the Central American Medical Association Committee who appoint state secretaries; these further subdivide the work by appointing county chairmen. In five large cities we have especial city secretaries.

There are at present 9 members of the central committee, 45 state secretaries and 238 county chairmen, besides assistant secretaries, and members of subcommittees. All are members of the American Medical Association and serve entirely gratuitously; there are over 300 officers in our committee, and with each of these, at a conservative estimate, six other physicians are associated, making in all a total of no less than 1,800 members of the American Medical Association who during the last two years have, as a definite and organized piece of work, carried forward this American Medical Association campaign of health education. It is following this year the same lines as last in Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New Hampshire, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, Wisconsin and Wyoming: also in Alaska, District of Columbia, Hawaii and Panama. Work was begun under the committee this year in Alabama, Nevada, North Carolina, Vermont, and West Virginia.

The plan of work used in all states includes the use of a leaflet, the name of the committee officer distributing it being written in the blank space.

The gratifying development of our committee work is in large part due to the progressive and at the same time conservative manner in which it has been carried forward. In Panama, for instance, at the beginning of the work last year Dr. William C. Gorgas, who was then President of the American Medical Association, presided at the first meeting, held under the auspices of our committee, and expressed his entire approval and hearty endorsement of the campaign to be conducted by members of the American Medical Association for the lessening of disease through education.

The physicians who have been asked to represent the committee in each locality have been selected on recommendation of their county medical societies or state health officers.

The general recognition, on the part of the public, of the importance of systematic teaching on the prevention of disease is shown by the impetus our committee has definitely given to health education; for instance, in Ohio and many other states. Last year in New York City, ours was the only course of lectures; this winter there have been six courses, arranged by scientific and social groups, many of the topics and speakers being the same as in our course last winter, as you will see by reading the separate report for the County of New York, herewith submitted.

Mrs. M. W. Barry of North Texas College and secretary of the Education Department of the National Federation of Women's Clubs, wrote asking our cooperation regarding educational work in the federation, also requesting a bibliography on sex hygiene suitable to be placed in the hands of mothers and teachers, and a list of our committee officers. Later she wrote that she had sent to each chairman on the Federation Education Committee the names and addresses of the state secretaries of the American Medical Association Public Health Education Committee.

The helpful results of our two years of committee work have been widely distributed, as the following examples will show:

Dr. F. Park Lewis, chairman of the American Medical Association committee on Prevention of Blindness, Miss Louisa Lee Schuyler and Miss Caroline C. Van Blarcom, the executive secretary of the National Committee for the Prevention of Blindness under the Russell Sage Foundation, conferred with the chairman of the American Medical Association Public Health Education Committee regarding an extension of their work, and were advised to provide many duplicates of the one set of lantern slides they then had for illustrations, and also to have a leaflet made to accompany these, giving the most important statistics and data bearing on their work. An official circular letter was written putting them in touch with the state secretary and county chairmen of our committee in all states and the officers of our committee were urged to lay stress on this subject in the educational campaign they were conducting. This was done in the most cordial spirit, and individual instances will be found in the reports of our New York and Tennessee state secretaries.

The secretary of the Health Department of the National Y. W. C. A. writes that the interest of their members in health education is rapidly increasing through our active cooperation. We also put her in touch with all our state secretaries and county chairmen, for we are very glad to help her arouse in the 193,000 women in their national Y. W. C. A. a conscience regarding the duty of being well.

A glance through the detailed reports submitted herewith will show the service we have rendered to the cause of social hygiene and the activity of our committee on general health education in mothers' clubs and federated women's clubs throughout the country. In New York the president of the New York City Mothers' Club said that the only reason they had no individual lectures on health was that the lectures under our committee at the New York Academy of Medicine were so practical that they all went there to hear them each week.

One of the best pieces of work begun by our committee last year under Dr. S. Josephine Baker and continued this year by Dr. Belle J. McDonald, the New York Secretary of our Subcommittee on Affiliated Public Health Work, was a number of letters written to the boards of health in each state and the tabulation of their answers submitted as the report of that subcommittee. This is of especial value as we wish to have our committee members in each state work in close touch with the boards of health, avoiding duplication of effort, and educating the public to the importance of cooperation in health matters.

Our Subcommittee on Medical Literature has compiled a bibliography, herewith submitted, of books and papers which will be found useful as a reference list by those who wish information on the prevention of diseases: the list is a compilation of data sent from forty states by members of this subcommittee. It is of course not an exhaustive list, but its usefulness is increased by being concise.

There is so much demand for a list of reliable sources of information that the hygiene committee of the New York City Federation of Women's Clubs asked permission to reprint, for local distribution, the one compiled by our committee, and have done so at their own expense.

A number of libraries, among them the Library of Pratt Institute, Brooklyn, has offered to make a special point of having for circulation the books recommended by our committee.

We have received very great assistance from many libraries in the free use of their halls for lectures, and the Library Committee of the New York Academy of Medicine took the trouble to put on a table in the room adjoining the lecture hall all the standard books bearing on the topic of the day, so that teachers and others who were present could see the type of books and make a list of such as they wished later to come to the library and read.

We do not have any literature for distribution because such organizations as the Tuberculosis League, the Pure Food Committee of the Consumers' League, the Special Committee for the Prevention of Blindness, etc., have very practical leaflets for which they are anxious to increase their avenues of distribution; we have therefore thought it best to recommend to each of our county chairmen that she cooperate with those working for the betterment of health locally, by carefully selecting such leaflets as are of educational value and free from all advertisement, allowing these to be used in connection with our committee work, whenever the organizations printing the same wished this done.

We are gradually collecting a set of reprints of separate lectures given in the various series in each state, with a view to eventually selecting from these a number which will be valuable to have reprinted in large numbers for general distribution, without giving the names of the authors.

The subcommittee on cooperation, of which Dr. Phoebe M. Van Voast is New York City Secretary, has rendered valuable service in writing to the secretaries of all associations and organizations doing work along lines similar to ours and keeping in touch not only with their routine methods, but answering requests to have our committee officially represented at their congresses and conventions, this being done at state meetings of the boards of health, at conferences of charities and corrections, at the meeting of the American School Hygiene Association and the meeting of the National Education Association, etc., a member of the committee living in the state where the conference is held acting as delegate.

The National Education Association which meets in San Francisco in July, 1911, has asked to have printed for distribution to their members at that time, a list of our committee officers and the topics recommended in our plan of work leaflets, in order that their association and ours may act together throughout the country.

The Committee on Cooperation has answered the many requests which have come to us for copies of our annual report and requests for information regarding opportunities for local and national cooperation, as for instance a recent letter from the Canadian Household Economic Association of Toronto, which is working with the Conservation Commission of Canada and the National Council of Women: also a request for data from Appleton & Co., the editors of the American Year-Book, and others who compile compendiums of what is being done throughout the United States along various constructive lines.

In submitting this report we regret that we cannot give a full statement of all the work which has been done by those who have so generously given of their time and knowledge, for it has meant a great deal of public spirit on the part of physicians whose lives are filled with the exacting demands of laboratories, and private and hospital practice.

Respectfully submitted,
ROSALIE SLAUGHTER MORTON, Chairman.
M. ALICE ASSERSON, Secretary.

REPORT OF THE COMMITTEE ON UNIFORM REGULATION OF MEMBERSHIP

To the Council on Health and Public Instruction:

This committee was appointed in accordance with the recommendation of the Secretary made in his report for 1908 at the Chicago session. In this report, the secretary emphasized the difficulty in enforcing the By-Laws of the Association regarding membership, transfers, etc., owing to the conflict existing in the By-Laws of the different state associations. The secretary also emphasized the necessity of uniformity in the essential provisions regarding membership and the great saving in money and time and the increase in administrative efficiency which would follow an adjustment of existing discrepancies. In accordance with the recommendation of the secretary, a committee of three was appointed with instructions to report at the next annual session. At the Atlantic City session in 1909, this committee presented an extended report, tabulating the conditions which exist in the various state associations and showing the importance of systematizing our present haphazard and confused methods of regulating membership. The committee recommended that it be continued for another year. On the day following the presentation of this report, the House of Delegates referred to this committee a resolution presented at the Chicago session by Dr. W. H. Sanders and referred to the Committee on Organization. This resolution referred to the revision of the Constitution and By-Laws of the American Medical Association. As the Committee on Organization had not done any work on this subject during the year it recommended that the resolution be referred to the Committee on Uniform Regulation of Membership, which recommendation was concurred in by the House.

At the St. Louis session in 1910, this committee presented a report consisting of three parts. The first consisted of recommendations for changes in the Constitution and By-Laws of the American Medical Association; the second consisted of recommendations regarding amendments to the Constitution and By-Laws of county and state societies governing disciplining of members; the third contained the [illegible] the uniform regulation of membership, the original purpose for which the committee was constituted. In this report, the committee renewed its recommendation of the previous year (1) that all state associations be requested to make their fiscal year conform to the calendar year and that component county societies be requested to adopt the same rule; (2) that all county and state societies be requested to adopt by-laws providing that membership shall continue only for the year for which dues are paid; (3) that the roll for each county and state society be made up each year to include as members in good standing only those who have paid their dues for the current year on or before a certain date; (4) that dues be pro-rated for fractions of a year and (5) that the committee be continued and instructed to prepare a complete system of books, blanks and regulations for the use of county and state societies and the American Medical Association for submission to the House of Delegates. This report was referred to the Reference Committee on Amendments to the Constitution and By-Laws. This committee, on the second day, submitted a report embodying modified amendments to the Constitution and By-Laws and making certain recommendations regarding the remainder of the report on Uniform Regulation of Membership. The House postponed consideration of the amendments to the By-Laws until the next day, at which time they were discussed, modified and adopted, but the remainder of the report, including the recommendations referred to the committee was not acted on; instead a supplementary report of the reference committee was adopted simply recommending that the committee be continued.

The committee begs again to call the attention of the House of Delegates to the vital and urgent importance of the adoption of a systematic plan for the regulation of membership. In the report of the Committee on Organization, made at the St. Paul session in 1901, the advantages of uniform membership provisions and for a plan by which members moving from one state to another could transfer their membership from one society to another without a break in membership, was emphasized, in fact this is one of the most important subjects discussed by the committee. Furthermore, in the uniform card system made up by the Committee on Organization in 1902, a recommendation for adoption of permanent record cards and transfer cards was provided. It is perfectly obvious that no adequate system of membership can possibly be devised unless county and state societies observe uniformity regarding the general principles of membership regulation. If each society follows its own fancies regarding the beginning and termination of the fiscal year, the length of residence necessary for eligibility, etc., no transfer system is possible. Furthermore, if a county society has the right to disregard a transfer card issued by another county society to a member in good standing and to refuse a member bearing such a transfer card membership in the society of the county to which he goes, then it is equally clear that any system of uniform regulation is impossible. It is becoming more and more evident, as your committee has repeatedly urged, that this is one of the most important questions which the organization has to consider. It is to-day causing much unnecessary expense to county, state and national organizations; what is far more important, it has resulted in dissatisfaction and alienation on the part of individual members on account of fancied injustices which are unavoidable under existing conditions and which the executive officers of the different parts of the organization cannot avoid. For instance, if a physician in good standing in one county society removes into the jurisdiction of another county society taking with him a transfer card properly made out, and if the county society into whose jurisdiction he moves, for any reason, denies him membership, he has at present no recourse, while the secretary of the American Medical Association is placed in a position where he must either drop the member's name from the list of members of the American Medical Association, which may work an injustice to the member, or continue to carry him as a non-resident member of the county from which he moved, regardless of the action of the county society in whose jurisdiction he resides. This is an injustice to the county society and is a palpable infringement on the right of the county society to regulate its own membership matters. Yet it is impossible under present conditions to avoid the perpetration of an injury of the rights of someone concerned.

The relative jurisdiction of county, state and national bodies, as well as a clear-cut and definite method of regulating membership, including the transfer of membership from one component part of the organization to another, should be carefully worked out and then put in force in all parts of the organization.

The experience of the committee in the past three years leads us to believe that this work cannot properly be done through correspondence or by attempts to modify the By-Laws or frame recommendations during the rush and excitement of the annual sessions. It is a matter which should be taken up deliberately and given careful consideration. Prominent and representative executive officers in various county societies, as well as of state societies, should be called into consultation and asked to aid by criticisms and suggestions. The report of the committee should be carefully drafted long enough in advance of the annual session to admit of its being sent to a large number of members and officers for criticisms, and when presented to the House of Delegates as the finished product, the results of the deliberations of the committee should not be nullified without the strongest reasons for such action.

In view of the experience of the last three years, your committee has refrained from any further practical recommendations, believing that in spite of the best of intentions, it has not pursued the wisest method in attempting to investigate this question. With a view to getting on the right track, the committee makes the following recommendations:

We recommend that the present committee be continued, or if the House of Delegates sees fit, that a new committee of seven state secretaries be constituted;

That the trustees be requested to appropriate a sufficient amount to enable this committee to hold at least two meetings at the headquarters of the Association in Chicago;

That to this committee be referred the two previous reports of our committee together with their recommendations and that the committee be instructed to take up the entire question of membership in county, state and national organizations with their relationship to each other, including qualifications for admission to membership, fiscal year, membership transfers, method of reporting and recording membership by secretaries of county, state and national bodies, together with the formulation of a complete system of cards, blanks, reports and forms, with a view to unifying the membership of the entire organization on a fair, equitable and systematic basis.

We recommend that this committee be instructed to hold at least two meetings to secure criticisms and opinions from any members or officers of the organization, that may be needed, and, if possible, to present to the House of Delegates at the next annual session a complete plan regarding the regulation of membership throughout the entire organization.

Respectfully submitted.

Thomas McDavitt, Chairman.
W. R. Steiner.
J. H. J. Upham.
Frederick R. Green.

Report of the Director of Postgraduate Study

To the Council on Health and Public Instruction:

I submit herewith a report of the work of the course of postgraduate study for the fourth year. The course as originally planned consisted of a cycle of four years, hence this is the last year of the first cycle. It is expected that the course for the next cycle will follow in a general way that of the first, but as we profit by the experience of this cycle the subject matter for the next four years will require modification and certain changes, if the interest of the societies is to be maintained.

The outlines for this year were printed and ready for distribution by August 1, 1910, and a large number of the societies which had been following the course before were ready for the work by September 1. The outlines distributed for the year were in the form of the Warren County (Ky.) Medical Society programs, most of the societies using them by filling in the names of the teachers for the different topics.

The increase in number of societies and in interest in the work was rather marked for the first three years. During the fourth year the course has not been lacking in interest, for many of the societies familiar with the work have continued it in a systematic way during this year, but the number of new societies has not been so great as heretofore. In our opinion the cause for this failure to get the usual number of new societies to take up the course is that Dr. McCormack has not been able in his work to visit as many societies as has been his custom. We note further that most of the new societies taking up the work during this year have been those visited by Dr. McCormack, showing, as we have suggested heretofore, that one familiar with the plans and details of the course can much more easily and readily arouse an interest and enthusiasm in the local societies.

A number of secretaries have written already to know what is to be done with the work for next year, as they are anxious to continue some systematic course of study, recognizing in this plan one of the best means of maintaining interest in the local county society, the unit in our organization.

Very respectfully,

John H. Blackburn, Director.

Report of the Committee on Visual Standards for Pilots.

To the Council on Health and Public Instruction:

The committee to confer with the Department of Commerce and Labor with a view to obtaining the adoption of suitable standards for the examination of the eyes of navigators operating under federal law begs leave to report that, after a conference with the secretary of the department, at which the Board of Supervising Inspectors of the Steamboat Inspection Service was present, the Department of Commerce and Labor has adopted the recommendations of your committee with one slight modification, and after July 1 of this year all navigators under the control of that department will be examined by the standards which your committee submitted to them. The text of the resolution adopted by the Board of Supervising Inspectors of the Steamboat Inspection Service at the meeting of January, 1911, is as follows:

> *Resolved,* That it is the sense of the Board of Supervising Inspectors of Steamboats, after a careful consideration of the recommendation of William Campbell Posey, M.D., of Philadelphia, Pa., pages 17, 18 and 19, that it be made the basis of an examination required to determine the fitness of any applicant for license as master, mate or pilot, and that the Board of Supervising Inspectors request the U. S. Marine-Hospital Service to make Dr. Posey's recommendations the standard of this examination, with the exception that the examination be required only on the issue or renewal of license, that is to say, every five years.

The committee is highly gratified at the adoption of the standard, for it insures a requisite degree of vision and color-sense in all navigators under the control of the federal government. As was stated in the address of the chairman of the Section on Ophthalmology at the meeting of the Association last year, the more than 4,000 annual examinations of the eyes of masters, mates and pilots in the mercantile marine have hitherto been made in a more or less haphazard manner, the Department of Commerce and Labor having failed to establish any fixed standard of vision, to govern the officers of the Marine-Hospital Service in making the tests.

The standards of visual acuity which were submitted by your committee were determined on after a careful study of foreign standards and after due consideration of the minimum degree of vision a candidate may have and yet be a safe pilot under all conditions of weather. The manner of carrying out each test is fully described in the instructions also submitted with the standards, for the purpose of uniformity and in order that all examining officers may know that they are complying exactly with the orders of the department.

The tests for color are also explained very explicitly and the rules of procedure elaborated so carefully that the examiners need no longer have recourse to a manual on color sense. Under the present laws, candidates for license need pass but the one test, *i. e.*, that on entrance, while under the standards they must submit to reexamination every five years. This enactment will prevent the continuance of navigators in the service whose vision or color-sense may have deteriorated by age or disease.

At the request of the Marine-Hospital Service, a standard of hearing was also submitted by your committee, as no directions for making the test of this special sense had hitherto been specified by the Department of Commerce and Labor.

In requesting the acceptance of its report, the committee would venture to suggest to the House of Delegates that it extend the thanks of the American Medical Association to the present secretary of the Department of Commerce and Labor, the Hon. Charles Nagel, for his interest in the work of the committee and for his aid in securing the adoption of the standards.

Although the adoption of the standards of your committee insures the proper examination of the eyes and hearing of navigators operating under federal law, there will be still a large number of navigators in the United States who will continue to ply their vocation without adequate test of their visual and aural capacity. The committee refers to the large number of branch or state pilots who have charge of the pilotage of all ships in our waters bound to or from foreign ports. By an act of Congress of Aug. 7, 1789, jurisdiction over these pilots was given to the various states, and they are amenable only to state law or municipal regulation and the federal government exercises no control over them.

As was pointed out by the chairman of the Section on Ophthalmology in the address referred to above, investigation revealed that with but few exceptions the commissioners in the various states had failed to enact any definite visual requirements, and that the question of the sight of pilots was left to the pilots themselves; and in no state were visual standards or tests proper or adequate.

It is the desire of your committee, therefore, that it be continued for another year for the purpose of obtaining if possible the enactment of proper federal or state laws to control the examination of this large body of men.

Respectfully submitted,

William Campbell Posey, Chairman.
Charles H. Williams.
William H. Wilmer.

Philadelphia, May 22, 1911.

Report of the Committee on Prevention of Blindness

To the Council on Health and Public Instruction:

Your Committee on the Prevention of Blindness organized its work by the appointment of a series of subcommittees as follows:

Ophthalmia Neonatorum: F. Park Lewis, Chairman, J. Clifton Edgar, F. F. Wesbrook.

Toxic Amblyopia: George E. de Schweinitz, Chairman, Thomas B. Holloway.

Wood Alcohol Amblyopia: Casey A. Wood, Chairman.
Trachoma: John Green, Jr., Chairman.
Congenital Blindness: Clarence Loeb, Chairman.
Hygiene of the Eyes: William Campbell Posey, Chairman.
Industrial Conditions Affecting the Eyes: Mark D. Stevenson, Chairman.

The reports which they were able to make are merely preliminary, but they indicate how broad and how important this work is.

In the development of this work, an effort was made to correlate the labors of all like organizations in order that the largest results might be obtained with the minimum expenditure of energy. It was realized that the furtherance of any great movement for sight-saving demands the united efforts of educationalists, physicians, health officers, social workers, and indeed of all cases of people interested in the problems of general sanitation. To that end, the subject of the conservation of vision was brought before the teachers of the country at a meeting in Boston last year of the National Educational Association and a committee was appointed. This committee consists of an illuminating engineer, a psychologist, a book-publisher, a school-man and an ophthalmologist. Their first report will be made this year in San Francisco.

Perhaps the most important movement during the past year for the conservation of vision and the prevention of blindness was held under the auspices and through the courtesy of the Russell Sage Foundation, in the rooms of its board of directors in December, 1910. At that time a national association was formed largely designed to supplement the work already being done under the direction of the committee on prevention of blindness of the Russell Sage Foundation. The purpose of this association is:

> To collect and standardize existing information on all subjects pertaining to the use and care of the eyes.
>
> To secure the investigation of subjects on which present knowledge is incomplete or contradictory.
>
> To promulgate knowledge relating to the conservation of vision.
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> For the purpose of carrying out these objects in the most thorough and effective manner the work of the Association has been divided into six different departments, as *follows*: *Department of* Diseases and Defects of the Eye, Educational Department, Industrial Department, Department of Statistics and Information, Department of Publicity, and Department of Legislation.
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> Each department is conducted by a director, with a staff of five or more associates, and such *special assistants or committees* as may be expedient. All of these departments work under the general direction of the board of managers and the cooperation of the general secretary. All existing associations and committees engaged in similar or collateral lines of work are brought into active participation through representation in the various departments.
>
> Membership in the association is open to everyone interested, either for themselves or for the good of others, in the objects set forth.
>
> The association invites the assistance and cooperation of all who are interested in the various phases of the work of conserving eyesight. In return for such cooperation it offers every assistance in its power, whether for the personal good of the individual member or the work of extending the benefits to others.
>
> Th[illegible] ier charitable nor philanthropic in spirit, but [illegible] believing that a sound mind in a sound body [illegible] all, and that to insure every individual coming into his natural inheritance is but an act of common justice.

A CONSERVATION OF VISION DAY

In order that the work which is so rapidly progressing under the various state commissions, associations, health boards, medical and educational committees and other bodies may be crystallized in one effective effort, it is proposed that a special day in October, 1913, be chosen as a "Conservation of Vision Day," and that all of these forces combine in emphasizing the practicability and importance of sight-saving.

Such a movement fixing public attention in every city and state on the various phases of unnecessary blindness, with actual demonstrations of the best methods of lighting the home, the school and the work-room, of avoiding accidents, of protecting working men in factories and shops, would do more to develop a popular understanding of the hygiene of the eye and the means to be adopted for its protection than would volumes of scientific treatises.

Your committee recommend that such a day be selected, and that the states and cities be invited to join in the development of such a popular movement. They would recommend that the work as outlined in the valuable reports of the subcommittees be continued: that the American Medical Association Committee on Hygiene and Sanitation approve of a uniform law for the control of ophthalmia neonatorum, and that its enforcement be urged on the health authorities in every state and of every *city in the country*. *In* that way, that for which we have been struggling would become an accomplished fact and our country would have the proud satisfaction of being the first to abolish this destructive plague.

Respectfully submitted.
F. Park Lewis, Chairman.

Report of the Subcommittee on Ophthalmia Neonatorum

To the Committee on Prevention of Blindness:

In 1906 it was urged that the blindness resulting from birth infections which contributed one-quarter to the entire population of our schools and asylums for the young blind—which was causing misery beyond estimate and which demanded an annual sacrifice of millions of dollars—was cruel and unnecessary, and that this prodigal waste of human power and human resource must be stopped.

This unending destruction of the eyes of new-born babies which had gone on from time immemorial was and is an anachronism, totally out of harmony with the methods, the aims and the possibilities of modern sanitation. This is a problem so well understood and so simple that it requires for its solution merely that it should be known and that the things necessary to check its ravages once and forever should be done. It seemed, then, that the deplorable losses which we suffer were due to the neglect, to the indifference, or to the carelessness of individuals who omitted the simple well-known precautions required for the prevention of infections, or who failed to appreciate the imperative necessity of immediate and adequate treatment after infections had occurred.

It soon became evident, however, that it was not the simple, ignorant, unclean midwife who ministered to the women of her class, nor was it the poor overworked doctor who was primarily responsible for these deplorable losses, although under the hands of both of these the eyes of the children of the nation were being put out. Primarily and essentially the responsibility rests on society—which in its last analysis means every individual who knows what should be done, and whose influence would aid in the protection of these helpless babies.

Your committee, therefore, undertook to bring the force of society together in order that the augmented power of cooperative endeavor might be obtained. Naturally and properly, the organization necessary for the development of this movement began in our own splendidly organized Association. It was primarily a problem in obstetrics, because the first and most essential treatment devolved on the attendant on the mother; in ophthalmology because it had to do with the care of the eyes; and of public health because it was a communicable disease and because the resultant blindness made its victim in a vast proportion of cases a public charge.

State committees were, therefore, appointed and were charged with the duty of carrying out in the several states a general policy which might be determined by the Association itself. *In the furtherance of this plan of coordination*, the subject of the control of ophthalmia was then exhaustively taken up with the American Public Health Association, the state and provincial boards of health and the obstetric and gynecologic societies. *All* of these gave the movement their most hearty and unqualified support.

Then it was that the importance and the practicability of the movement appealed to the directors of the Russell Sage Foundation and the movement became an organized campaign. It was seen at once that the basic necessity in the control of this destructive plague of birth blindness was education—broader, more comprehensive, more popular than had ever been undertaken before. The mothers of the *land must* be made to realize the peril that menaces their babies, then will there be little doubt that the maternal instinct will secure protection for them. Doctors and midwives must be specifically shown what should be done and the boards of health must see that these instructions are done, if the force of the law needs to be invoked in order that this end may be secured. The importance of right methods of managing the toilet of the new-born child and the necessity of scrupulously exacting care on the part of those who are in attendance on the parturient woman must not only be emphasized, but the detailed methods *must* be described and repeated so frequently that they become automatically a part of the routine of procedure in every case.

It is not enough that the accredited prophylactic be gratuitously distributed by the health department of the state so that the silver salt need never be lacking, but it should be accompanied by brief but lucid *descriptions of ophthalmia* neonatorum telling with exact detail to what it is due, how it may be avoided, and of the imperative *necessity* of right and immediate treatment as soon as *infection shall have taken* place. A pamphlet on this subject should be regularly issued by every state health board in the United States as a part of its routine work. Then ophthalmia neonatorum should be made everywhere a reportable disease and the best physicians should lend their influence and support in developing a sentiment that will compel the attendant on every case, whether midwife or doctor, to comply with the law in reporting *it promptly* to the department of public health. Only *in this* way can eyes be saved that would otherwise be lost.

In Indiana and Dakota, laws have been enacted which make any claims for services on the mother illegal unless the question whether or not a prophylactic has been used, has been answered by the attendant. While the necessity of some vigorous measure is recognized on all sides, it is very doubtful that this is the best way of getting at it and indeed the constitutionality of such a law has been questioned. It deprives the attendant of the right to receive remuneration for what he has done as a penalty for a neglect of another duty which he has omitted. It would seem better if the reporting of births and of existing cases of ophthalmia neonatorum were required by law under penalty and then if the failure to observe the requirements of the law were rigidly and actively prosecuted and the results widely published, it would place the department of health in a position to take the right measures for the protection of babies' eyes at the right time.

This method has been adopted in Cleveland, Ohio, with most gratifying results:

> On Jan. 1, 1911, the board of health of the city added ophthalmia neonatorum to the list of infectious diseases to be reported by physicians.
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> During the months of December, 1910, and January, 1911, the *State Board of Registration, through its representative*, Dr. A. P. Hammond, arrested twenty-four midwives for unlawful practice. The Society for the Blind caused the arrest of four others for failure to report sore eyes. In a majority of these cases convictions were secured and fines imposed, the fines in some cases being remitted on the condition that the midwife should not practice until such time as she should be able to qualify under the laws of the state.
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> In December, 1910, the State Board of Health and the State Commission for the Blind jointly began the free distribution to registered midwives and physicians of an outfit containing a prophylactic for ophthalmia and accompanied by a circular giving directions for the care of the eyes.
>
> The object of the committee in its campaign against careless practice of *midwives was educational. It has been that and more.* It has resulted in the saving of sight to a score of babies. Following the publicity in the newspapers of cases of blindness resulting from neglect of midwives there have been reported to some one of the affiliated organizations represented on the committee thirty-eight cases of ophthalmia in children under 5 *years of age. In seven of* these the disease had run its course and four were totally blind, while three were partially so. In the remaining thirty-one the disease was still active, and of this number twenty-three have been treated in time and the sight has been saved, six have died from other causes, one is still under treatment and one has lost the sight of one eye.

In Boston the policy of securing the reporting of all cases by *prosecuting those failing to do so began in September*, 1910. In August, ten cases had been reported: in October after prosecution the number jumped to twenty. The effect of the prosecution had been forgotten in November. Then three other prosecutions were instituted and immediately the reports of cases began to come in to the health board from every side. There were fifteen in December, thirty-four in January, ninety-six in February, *while in March the number had reached* 118. It becomes perfectly evident, therefore, that ophthalmia neonatorum can be stopped if efforts are made to stop it. Where the power rests in the health board, prosecutions should be instituted and results published broadcast. Where the power does not rest in the board of health, it should be secured.

RECENT PROPORTION OF NEW ADMISSIONS IN SCHOOLS FOR THE BLIND WHO HAVE LOST THEIR SIGHT FROM OPHTHALMIA NEONATORUM—1910

States	New Admissions	O. N.	Per Cent.
Alabama	18	4	22.2
California	..	..	....
Colorado	8	4	50.0
Connecticut	9	1	11.1
Iowa	15	5	33.3
Indiana	..	..	....
Maryland	..	..	....
Massachusetts	42	9	21.4
Minnesota	14	3	21.4
Mississippi	..	..	....
Missouri	26	4	15.4
Montana	9	2	22.2
Nebraska	..	..	....
New Mexico	14	6	42.8
New York	27	6	22.2
North Carolina	59	11	18.6
Ohio	33	8	24.2
Pennsylvania	32	12	37.5
W. Pennsylvania	29	7	24.1
Tennessee	..	..	....
Texas	..	..	....
Wisconsin	16	2	12.5
Nova Scotia	..	..	....
Ontario	..	..	....
Totals	351	84	23.9

In this connection the following recent reports show the comparative value of hospital prophylaxis:

PROPHYLAXIS AS USED IN HOSPITALS

Hospitals	Total births	Cases O. N.	Primary Infections	Secondary Infections	Prophylactic
Society Lying-In, New York.	5,683	265	(Not kept separate)		S. N. 1%
Univ. of Pa. Maternity	240	0	0	0	S. N. 1%
Manhattan Maternity	1,314	5	5	..	Ag_2NO_3 1%
Jewish Maternity, New York	1,017	2	2	..	Argyrol 10% or S. N. 1%
Sloane Maternity, New York.	1,810	66	18	48	Argyrol 20%
Boston Lying-In	828	7	7	..	Argyrol 25%
Dr. I. L. Hill's Maternity	999	1	0	1	S. N. 1%
Johns Hopkins	407	0	0	0	S. N. 2%

(Used 1 per cent. silver and argyrol preparations. Best results with silver 1 per cent.)

RESULTS OF PROPHYLACTIC

University of Pennsylvania Maternity: No infections.

Manhattan Maternity: *But five cases of O. N. in confinements.*

Jewish Maternity, New York: Good; both cases cured.

Sloane Maternity, New York: Good; very little reaction.‡

Boston Lying-In: Seven cases, showing positive smears, and no secondary infections.

Johns Hopkins: Excellent results.

MARCH, 1911.—PROPORTION OF PUPILS BLIND FROM *O. N.* TRACHOMA, ACCIDENTS AND WOOD ALCOHOL IN SCHOOLS FOR THE BLIND IN THIS COUNTRY

State	Total Pupils in School	Total O. N. No.	Total O. N. %	Total Trachoma No.	Total Trachoma %	Total Accidents No.	Total Accidents %	Total Wood Alcohol No.	Total Wood Alcohol %
Alabama	89	13	20.2	..	....	5	5.6	.	...
Connecticut	43	10	23.2	..	....	8	18.6	.	...
Iowa	140	50	35.7	8	5.7	15	10.7	3	2.1
Massachusetts	297	90	30.3	..	....	28	9.4	.	...
Mississippi	53	6	11.3	1	1.8	5	9.4	.	...
Missouri	93	20	21.5	7	7.5	14	15.0	.	...
Montana	28	5	17.8	..	....	5	17.8	.	...
Nebraska	61	18	29.5	2	3.2	5	8.2	.	...
New York	152	38	25.0	..	....	14	9.2	1	0.6
North Carolina	313	34	10.3	..	....	25	7.9	.	...
New Mexico	34	18	52.9	10	29.4	3	8.8	.	...
Ohio	250	73	31.2	7	2.8	19	7.6	.	...
Pennsylvania	203	35	41.3	1	0.5	18	3.8	.	...
W. Pennsylvania.	130	40	30.8	1	0.8	7	5.3	1	0.8
South Dakota	32	..	....	..	...	5	15.6	.	...
Virginia	11	3	27.2	..	...	3	27.2	.	...
Wisconsin	89	8	8.9	1	1.1	7	7.8	.	...
17 schools	2,018	521	25.3	38	1.8	186	9.2	5	0.2

Respectfully submitted,

F. Park Lewis, Chairman.
J. Clifton Edgar.
F. F. Wesbrook.

Report of the Subcommittee on the Toxic Amblyopias Exclusive of Methyl Alcohol

To the Committee on Prevention of Blindness:

Your committee includes under the term "toxic amblyopias" all such amblyopias as are caused by the influence of toxic substances introduced from without into the system, and makes no reference to the defects of vision which arise from autointoxication. It is not necessary in presenting this preliminary report to make a distinction between the words amblyopia and amaurosis, inasmuch as they are etymologically synonymous, both signifying dimness of vision, although in literature it is customary to apply the term amblyopia to obscurity of vision and amaurosis to more or less complete loss of vision.

Poisons under the conditions named may directly affect the optic nerve, directly affect the ganglion cells of the retina and produce an ascending degeneration of the optic nerve fibers, directly affect the retinal tissue, produce dulled vision when ordinary examinations do not reveal retinal or optic nerve lesions, influence vision by an action on the iris and the uveal tract generally, and finally, cause various or irregular ocular symptoms, not always associated with marked depreciation of visual acuteness.

The degree of the visual defect may vary from complete blindness, that is to say, the abolition of the perception of light (which is rare), to very slight disturbances of vision, such, for example, as are *occasioned by mydriasis* or *cycloplegia*. In this preliminary report, however, and with the time at the committee's disposal, it is not possible to take up a *discussion* of the relation of the degree of the visual defect to the character of the poisonous agent.

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‡ Smears are taken from every discharging eye and examined for gonococcus. In all these sixty-six cases the gonococcus was found but once. The vast majority (forty-eight) were late infections with organisms other than the gonococcus. These do not seem to be prevented by any silver salt, and most of them were slight. All discharging eyes, no matter what the organism, are counted as cases of ophthalmia neonatorum. As stated above, the gonococcus was demonstrated but once in the whole series. No eyes were lost and no opacities or other abnormalities noted on discharge.

1. In order to gain some idea of the frequency of toxic amblyopia, exclusive of methyl-alcohol poisoning, in America, the medical literature pertaining to this subject from January, 1904, to August, 1910, was examined, and 249 references were tabulated. These references may be divided into those which are general; that is to say, references to papers which, in general terms, discussed the toxic action of various poisons on the human system without specific record of ocular complications, and direct references; that is to say, those which discussed the effect of toxic agents on the visual apparatus. Of the 249 papers which appeared during the years named, 211 belong on the general references, as already defined, and thirty-eight to the direct references. In the present communication no discussion of these general papers will be attempted, so that we deal only with thirty-eight communications bearing on this topic. Of these, nineteen describe intoxication amblyopia, and by this term is meant an amblyopia which is caused either by ethyl alcohol or by some substance in which ethyl alcohol is the active agent, or by tobacco, or by the combined effect of these two substances; four, lead amblyopia; five, quinin amblyopia; one, antipyrin amblyopia; two, iodoform amblyopia; one, coffee amblyopia; one, formaldehyd amblyopia; one, salicylate of sodium amblyopia; one, an amblyopia caused by the injection of protargol into the lacrimal sac; one, ptomain-poisoning amblyopia; and two, amblyopia of indefinite etiology.

Naturally, this comparatively small number of cases does not give any adequate idea of the frequency of toxic amblyopia in this country, because, in the first place, many of the papers describe more than one case, and in the second place, only the cases which have found their way into medical literature are here recorded. It does give, however, an idea of the substances which most frequently are the causes of the so-called toxic amblyopia, in so far as our own country is concerned.

2. In order to pursue the question of the frequency of the visual defects from these causes another examination was made, to-wit: The reports of eleven hospitals were examined as to the number of patients applying in the out-patient departments for relief of various ocular defects during various years: One year in one, three years in four, four years in one, five years in four, and six years in one.

The total number of eye patients recorded in these eleven hospitals during these years was 471,975, and among these 523 sought relief from a visual defect depending on the ingestion or action of some toxic substance. It is, however, not possible to tell from these reports what exactly the toxic substance was, as almost without exception the records fail to classify their toxic amblyopias; that is to say, there is no way of telling whether the toxic visual defect was due, for example, to alcohol-tobacco, to quinin, or to any other poisonous agent, although it may be assumed that in the large majority of cases tobacco and alcohol were the offending substances. If we may assume that this is correct, and we think we may, the chief cause of toxic amblyopia in this country furnishes about one patient to every thousand patients who apply for relief in our eye dispensaries. In this respect the statistics of our ophthalmic institutions indicate that tobacco-alcohol amblyopia is much less frequent in this country than, for example, in Great Britain. For instance, during ten years in one hospital in England, among 12,644 out-patients, 153 had tobacco amblyopia, while in an American hospital among almost exactly the same number of patients, not distributed, however, over so many years, that is to say, 12,280 patients, only thirteen cases of amblyopia from tobacco toxemia are recorded.

This again, however, does not give us any true idea of the frequency of this amblyopia in our own country, because it leaves out of consideration the many patients in better walks of life who suffer from this difficulty, and who apply for relief in private offices. In one office in which the records of 1,500 patients were examined, five came on account of tobacco amblyopia, or nearly five times as many as are recorded in the large statistical material which we have quoted from the various hospitals. It is the committee's hope in a future report to ascertain by a more elaborate investigation exactly the relationship of this amblyopia to the frequency of ocular disease as it occurs in so-called private patients, but with the figures thus far recorded we think we have shown that this and other toxic amblyopias, again exclusive of methyl-alcohol poisoning, deserve the investigation which has been entrusted to the committee organized by the American Medical Association. The committee feels that it is necessary to point out the lamentable inaccuracies of many hospital reports in so far as they fail to give a just idea of the relative frequency of the various toxic amblyopias. Not only is there a failure for the most part to distinguish between those which are due, for example, to tobacco and alcohol, and those which are due to other toxic agents, but not infrequently a certain number of cases are accredited simply to amblyopia, and it is impossible to tell whether this amblyopia was a toxic one, or, for example, a congenital amblyopia. More than this, we have omitted from our count all cases accredited to retrobulbar neuritis, because we could not ascertain whether this retrobulbar neuritis was due to some toxic agent, like alcohol or tobacco, or to some infection.

The committee, therefore, in concluding this preliminary and necessarily unsatisfactory report, makes an appeal to those who have charge of hospital statistics that in the future an endeavor shall be made to increase the accuracy of the records.

G. E. de Schweinitz.
T. B. Holloway.

Report of the Subcommittee on Blindness Produced by the Ingestion of Methyl or Wood Alcohol

To the Committee on Prevention of Blindness:

Since the account published (Poisoning by Wood Alcohol, The Journal A. M. A., 1904, xliii, 972, 1058, 1117, 1213, 1289) by the late Frank Buller and myself on this form of intoxication, cases of complete or partial blindness from the ingestion of the various forms of "deodorized" or "purified" wood alcohol are of less frequent occurrence. This result is partly due to the widespread discussion of the subject and to the publicity given to the fact that "Columbian spirits" and other forms of "deodorized" methyl alcohol are deadly poisons and not in any sense safe substitutes for ethyl, or grain, alcohol. But far more effective than these influences has been the introduction into this country of a harmless, cheap, tax-free commercial agent known as "denatured" alcohol. In a paper contributed at the end of 1906, to the *British Medical Journal*, I predicted that when the provisions of our "denatured" alcohol bill are carried into effect we shall, as in England, hear no more of wood alcohol poisoning and its annual tale of victims.

This prognostication is, however, only in part justified because we continue to have occasional examples of death, as well as toxic amblyopia and amaurosis either from the drinking of "deodorized" wood alcohol or from its inhalation (mixed with unbreathed air) by varnishers and painters.

In addition to the list of over 300 cases of blindness and death occurring in the United States from the drinking and inhalation of methylated spirits detailed in various journals by myself, a number of toxic cases have been reported by others. For example, Gruening has quite recently (*Archives of Ophthalmology*, July, 1910) given the histories of two more. In the first case blindness was the result of drinking a large quantity of adulterated wine. Both optic discs showed excavations resembling those of glaucoma without tension. In the second case blindness was the result of drinking whiskey, an analysis of which showed from 24 to 43 per cent. of methyl alcohol. In this case there was probably chronic methyl alcohol poisoning with an acute exacerbation. Ophthalmoscopic examination showed the optic nerves to be white, with veiled edges and sheaths of connective tissue surrounding the veins and arteries.

Still more recently two cases of poisoning from the inhalation of varnish fumes have been reported which are so typical—especially from the ocular standpoint—of wood alcohol intoxication that one can be almost certain of the diagnosis from the symptoms alone.

In a correspondence with Dr. Henry R. Hopkins who attended the unfortunates and Dr. Blaauw, the ophthalmologist who examined the survivor, there can be no reasonable doubt but that both victims are examples of this well-known cause of blindness. I submit an extract from a Buffalo newspaper that tells the story:

> Varnishing the inside of a beer vat seems in itself a harmless enough form of employment, but the report of Dr. Henry R. Hopkins, given before the Buffalo Academy of Medicine, would prove conclusively that the reverse is true. This report covers a most interesting case and one which will hardly fail to attract the attention of health authorities throughout the state and bring immediate results in the enactment of remedial legislation.
>
> According to the report as given by Dr. Hopkins, he and Dr. Greene were called on last week to attend the case of two men who had been stricken simultaneously after working as beer vat varnishers in a local brewery. One of these men, Joe Michael, of 422 Madison Street, survived but a short time after finishing his work. His fellow workman, one Lang, residing in Riley Street, has since been stricken totally blind, and with small hope of ever recovering his sight.
>
> In his report Dr. Hopkins said that death in the one instance and total blindness in the other resulted undoubtedly from the breathing of the fumes of wood alcohol, this being one of the predominating ingredients used in the varnish for beer vats. In fact, so strong are the fumes that while these huge vats are being varnished it is necessary to employ a watchman, to keep all lighted cigars and cigarettes without the danger zone—ten feet in most instances.

> The case in point is a particularly sad one, as both men have families and were in the prime of young manhood; and the wife of one about to become a mother.
>
> After the meeting of the society Dr. Hopkins was asked by a *Truth* reporter how he thought the dangers of such employment were to be obviated. This he believed could be effected by the substitution of "denatured" alcohol for wood alcohol, which he believes could be made quite as effective as a varnish ingredient as the other and partaking of none of the danger to human life present in the wood variety. There were on record, he said, seventeen cases of death and total blindness as a result of the breathing of the fumes of wood alcohol, these cases being mostly among varnishers of beer vats.
>
> This is a matter that should immediately enlist the attention of Health Commissioner Fronczak to the end that legislation which will protect this form of labor from the evils above outlined may be enacted. We believe, with the learned doctor, that this can be done by the substitution of denatured for wood alcohol; at any rate, the matter calls for prompt and thorough investigation and effective action.

When we know that England and Germany annually use millions of gallons of a cheap, commercial grain alcohol that has all the advantages of purified wood alcohol, without a single instance of death or blindness among those that work with it, and since our cheap "denatured" alcohol exactly corresponds to the tax-free foreign methylated spirits, there seems to be no valid reason for the employment of this poisonous "deodorized" wood alcohol, which is a continual menace to the health, eyesight and life of our citizens. Furthermore, I am reliably informed that our harmless and effective denatured alcohol can be put on the market as cheaply as Columbian spirits, Cologne spirits, eagle spirits or any other variety of "deodorized" wood alcohol. Practically, deodorized wood alcohol is a dangerous and virulent poison masquerading as a useful and comparatively innocuous household agent, pretending to be "just as good as" grain alcohol. As a matter of fact, it lies in wait to destroy the eyesight, perhaps the life, of those who use it.

As before stated, an effective plan for driving out of the market the poisonous wood alcohol and its deodorized derivatives is to remove all the objections, mostly begotten of ignorance, to the use of "denatured grain alcohol" in the arts and trades, and by the public generally.

In a necessarily limited and imperfect fashion I have been carrying on an investigation of the reasons why our people have not fully taken advantage of "denatured" alcohol instead of using the deleterious wood alcohol and I find that apart from the fact that it takes time to displace an article to which the public has been long accustomed, the dangers of using wood alcohol are as yet imperfectly understood, even by those who habitually employ some form of alcohol in their business. I refer not only to the family use (in small quantities) for fuel and for cleaning, and to the painter and varnisher, but to the larger consumption of wood alcohol in the arts and sciences —to the paint, soap, varnish, piano, whip, drug, gunpowder, hat and other manufacturers—who ought to be fully acquainted with the poisonous qualities of the one agent and the harmless character of the other. I find that there are objections—technical and other—to the employment by some of the trades and manufactories of "denatured" alcohol as a substitute for methyl spirits. So far as my investigations have gone these objections can and ought to be removed.

The bill that established denatured alcohol provided for a denaturant that might vary with the needs of various arts and trades. In Germany, denaturization is "complete" or "incomplete" (*The Automobile*, Oct. 26, 1906), according to the purpose for which the spirit is to be used. "Complete denaturization is accomplished by adding to every 100 liters (26½ gallons) of alcohol 2½ liters of 'standard denaturizer' made of 4 parts of wood alcohol, 1 part of pyridin (a nitrogenous base obtained by distilling bone oil or coal tar), and 50 grains to each liter of oil of rosemary or lavender. A slightly different method consists of adding to every 100 liters of alcohol 1¼ liter of the 'standard denaturizer' and two liters of benzol. During the year 1903-4 a total of 26,080.505 gallons of alcohol denaturized by these processes were used for heating, lighting and commercial purposes in Germany.

"Incomplete denaturization is employed where the alcohol is to be used for special purposes for which the completely denaturized spirit would be unsuitable. The process is such as to render the spirit unfit for drinking, and varies according to the purpose for which the spirit is to be employed. For instance, for the manufacture of varnishes and inks, the alcohol is denaturized by the addition of oil of turpentine or of animal oil.

"Alcohol for the manufacture of soda soaps is denaturized with castor oil. Denaturized alcohol is used in the manufacture of celluloid and pegamoid. Alcohol for the manufacture of ethers, aldehyde, argacin, white lead, bromo-silver, gelatins, photographic papers and plates, electrode plates, collodion, salicylate acid and salts, aniline chemistry, and for a great number of other purposes, is denaturized by the addition of sulphuric ether, benzol, oil of turpentine, or animal oil."

In view of the facts just related I would suggest that your committee authorize this subcommittee to make a further investigation of the subject; (1) to inquire of those most competent to inform us the reasons for the partial failure to accept "denatured" alcohol as a substitute for the poisonous product, (2) to devise ways and means for the removal of the obstacles to the general use of "denatured alcohol," (3) to enforce the use of the poison label on all retail packages of wood alcohol, both impure and "deodorized", (4) to disseminate a wider knowledge of the poisonous character of every form of methyl alcohol, and (5), finally, to procure such legislative action as will prohibit the manufacture or sale of every form of "purified" or "deodorized" methyl alcohol.

All of which is respectfully submitted.

Casey A. Wood, Chairman.

Report of the Subcommittee on Blindness from Trachoma

To the Committee on Prevention of Blindness:

Trachoma is a disease of great antiquity. We are assured by Hirschberg that it existed fully 3,000 years ago. Greek and Roman medical writings contain allusions to this disease and describe its blighting effect on vision. Cicero, Pliny and Horace are said to have been victims of the malady.

It is certain that the disease existed then, as now, in endemic form, in many localities, and, indeed, where the conditions were favorable, it overran entire countries, *e. g.*, Egypt. From Egypt it was imported into the continent of Europe early in the nineteenth century by Napoleon's soldiers and rapidly became disseminated. Wherever conditions were favorable, it gained a foothold and is to-day endemic in many localities.

Trachoma was brought to the United States by European immigrants coming from infected localities. It is, then, speaking from the standpoint of the United States, an "alien" disease.

RELATION OF TRACHOMA TO DEFECTIVE VISION AND BLINDNESS

The most frightful results of trachoma are to be seen in Egypt, where much the largest proportion of blindness is attributable to this cause. According to Snyder (*Ohio State Medical Journal*, March 15, 1909), 60 per cent. of all blindness in Europe is caused by trachoma. In Russia and the Baltic provinces, 96 per cent. of all trachoma patients become "more or less blind." Clark (Report on Trachoma, U. S. P. H. & M.-H. Ser., 1907) states that "75 per cent. of untreated cases of trachoma result in blindness." Even when the disease stops short of producing complete blindness, it seriously interferes with the workability of the eyes. J. W. Schereschewsky (*Report on Trachoma*, U. S. P. H. & M.-H. Ser., 1907), writing on this point says:

> It is astonishing to what degree slight alterations in the corneal tissues, as the result of trachoma, may reduce the sight. Even slight haziness may reduce the vision to one-tenth of normal. Pressure of the thickened lids and a macerating influence of the trachomatous secretions may so soften the corneal tissues and alter the corneal curvature that high degrees of irregular astigmatism, not susceptible to correction by glasses, are encountered.
>
> The menace to the vision in any untreated case is very real, even in cases initially mild, as subsequent exacerbations may induce a train of destructive corneal lesions. Trachoma decreases not only the economic efficiency of the sufferer, but that of the race or people as a whole, among whom it is prevalent. A person afflicted with trachoma is not on a par of productive capacity with a healthy individual. As the earning capacity of the victim decreases he must needs satisfy himself with a lower standard of existence, thereby not only exposing himself, but others who are dependent on his efforts, to those conditions of increasing poverty, filth and unhygienic surroundings which are known especially to foster the disease and to facilitate its distribution. In this manner the vicious circle is completed.

TRACHOMA IN THE UNITED STATES

Up to 1897, immigrants afflicted with trachoma were permitted to enter the country without let or hindrance. In this year, the disease was classed under the head of "dangerous contagions" by the United States Public Health and Marine-Hospital Service, thus making mandatory the deportation of aliens so afflicted under section 2 of the immigration laws. It was further specified that a steamship company permitting an immigrant with developed trachoma to embark must pay a fine of $100 and bear the expense of deportation. The steamship companies have learned by experience that it is not good business policy to book victims of trachoma and so have instituted a rigorous inspection of the eyes of all immigrants about to embark. At Italian ports, medical officers of the Public Health and Marine-Hospital Service are on duty and detect practically every case of trachoma among prospective immigrants.

The laws now operative seem adequate to prevent the entry of all but a small number of trachoma victims. It is impossible to say how many immigrants with trachoma were permitted to enter the country prior to the act of 1897, but judging from the number annually deported for this cause since the law went into effect, the former number must have been large. We may gain some idea of the probable annual importation of trachoma prior to 1897, by referring to the last (1910) annual report of the Commissioner-General of Immigration, which shows that 6,400 subjects of trachoma were debarred from embarking, 2,600 were debarred from landing and deported, and ten were deported having developed trachoma within three years of landing.

Prior to 1897 immigrants with trachoma, in common with their fellows not so afflicted, distributed themselves far and wide throughout the United States, some remaining in the port of arrival, others finding their way to inland cities, still others to rural communities of the west and south. Wherever conditions were favorable (bad housing, overcrowding, lack of ventilation, uncleanly habits), the disease, spreading from the original source, soon gained a foothold in the community. One frequently hears how "red-sore eyes" ran through a village school, scarcely sparing a single pupil. Or the invasion was more insidious until many, perhaps the majority, of people in a township were affected. Untreated, or inadequately treated, many of these unfortunates passed through all the wretched early stages of thickened lids, pannus, corneal ulceration, and finally, after years of suffering and partial industrial incapacity, emerged with scarred and incurved lids, nebulous corneas and greatly diminished vision.

LOCALITIES IN WHICH TRACHOMA IS KNOWN TO BE ENDEMIC

Many of the towns of southern Illinois are veritable hotbeds of trachoma. Northern Arkansas is seriously infected. The following excerpt from the twenty-first biennial report of the Arkansas School for the Blind indicates how serious is the menace to sight from trachoma in this state:

> The condition in Arkansas shows a larger proportion of pupils in school with trachoma than from all other causes, and a larger per cent. than is shown to exist in other states. The northeastern and northwestern portions of the state constitute the principal areas of infection. The eastern and southern portions are almost entirely free as far as shown by our records. In the Arkansas school the number of pupils enrolled, 1908-10, was 199 white and twenty-eight colored. The number of cases of trachoma and blindness caused from trachoma was 115. Careful investigations reveal the fact that there has never been a case of trachoma in the colored department in the twenty-two years of its existence.

The New Mexico Institute for the Blind reports that of fifty-eight new cases of blindness admitted within the last five years, 8 per cent. were blind from trachoma. The Connecticut School for the Blind reports that in the past five years thirty-three children were admitted to the school department, of which there were two known cases of defective sight from trachoma. Information on this point was sought from the blind schools of California, Georgia, Kentucky, Louisiana, Minnesota and Oregon in the hope that the figures obtained would be a fair index of the trachoma situation in widely separated parts of the country. At present writing (March 28, 1911) none of the above named schools has replied to my letter of inquiry.

Dr. J. A. Stucky, of Lexington, Ky., who recently made a journey into the heart of the mountain regions of eastern Kentucky, makes the following report:

> I found that in families where there were children it was an exception to find only one case of diseased eyes. In one instance seven out of the nine children were unable to attend school on account of trachoma. Such cases as these are not allowed to attend our schools, and yet in the mountains they are not considered infectious or dangerous, but just "sore" eyes. A solution to the problem in the mountains is the same as in the state—the question of education. Many of those who need surgical treatment and hospital care have not the financial means to obtain these. The county in which they live contains no institution where they can be cared for without personal expense and the county treasury contains no funds to provide for even the hospital care elsewhere.

EFFORTS, LEGISLATIVE AND SOCIAL, DIRECTED AGAINST TRACHOMA

Since 1905 Pennsylvania has classified trachoma with twenty-six other diseases as "contagious" and these are made reportable to the health authorities. In 1909, Philadelphia passed an ordinance requiring the reporting of all cases of trachoma, with residence and personal data of those affected, and the disinfection of a room or house which has harbored a trachoma patient. The city ophthalmologist visits the patient and advises the proper course to pursue. Since 1905, New York has maintained a "trachoma hospital" and two trachoma dispensaries.

The problem of the trachoma child is a serious one. Debarred by the inspector from school, he is in danger of losing all chance for education during the only years in which education is possible. London has met this problem in the schools by establishing the so-called trachoma homes under the auspices of the Metropolitan Asylums Board. These homes comprise a central administration building and separate houses under the charge of a house mother, each house lodging twelve children. Living thus under excellent hygienic conditions, and adequately treated by specialists, these children pursue their education without interruption during the period of cure.

The outlook for the city dweller afflicted with trachoma is none too brilliant. In ninety-nine cases out of one hundred, his economic condition is such that it is practically impossible for him to spare the time necessary to receive a prolonged course of treatment. But at least the city dweller with trachoma has the opportunity of skilful care. Not so his country-cousin, affected with the same disease. The latter, untreated, or improperly treated, by well-meaning but unskilled country practitioners, is almost always doomed to a long period of pain, wretchedness and partial industrial incapacity. By the time the disease has worn itself out vision is seriously impaired or entirely lost.

Many of our states, at least those in which trachoma is endemic, should follow the example of New York by establishing trachoma dispensaries in different parts of the commonwealth and a centrally located trachoma hospital.

Respectfully submitted,

John Green, Jr.

Report of the Subcommittee on Congenital Blindness

To the Committee on Prevention of Blindness:

Your Subcommittee on Congenital Blindness desires to make the following report, which should be received as only a partial, preliminary one. The subject is so vast, and the data are so scattered, that it has been possible to review the literature of only the last four years, viz., 1907 to 1910, inclusive, together with references contained therein to previous years. The facts collected have been arranged in the subjoined table, where the attempt is made to show graphically the different ocular lesions which justly may be called congenital. No condition is included unless the proof that it was congenital seemed sufficient. Only a brief abstract of the extensive literature is given.

From the statistics of Poland and Galicia, it is seen that from six to seven in every 10,000 inhabitants are blind. This agrees with Paly in regard to the blind of Switzerland (7.22 per 10,000). Out of 4,443 blind in Galicia, 1,057 cases were congenital (or 23 per cent.). In twenty-nine inmates of the Klarschen Blinden Anstalt, six (or 21 per cent.) were congenitally blind. These high percentages are found, however, only when the proportion of congenitally blind to blind patients is estimated. The ratio of congenital blindness to general ocular lesions is very much smaller. Out of 10,000 eye patients treated at Krain only thirty-four were congenitally blind. Out of 130,423 eye patients treated at thirty-two of the German, Austrian and Dutch eye clinics in 1907, only 610 were congenitally blind (about five to 1,000). Out of 159,313 patients treated at practically the same institutions in 1908, only 594 (about four to 1,000) were congenitally blind. So, it may be said that about 0.5 per cent. of all eye patients suffer from some form of congenital blindness, as shown in the table below. If the number of cases reported is taken as the standard by which to judge the relative frequency of each lesion's occurrence, the list will be headed by microphthalmos, followed closely by aniridia and by coloboma of the iris. Anophthalmos and the different forms of cataract also rank high. Most infrequent are the tumors, especially the teratomas.

In reviewing the lesions enumerated, it will be seen that they fall into two classes: (1) Those which, like medullated nerve-fibers in the retina, cyclopia, albinism, etc., are by their very nature congenital, and cannot be confused with postnatal diseases; (2) those in which only the history of an exact microscopic examination will allow the diagnosis of congenital or postnatal lesion, *e. g.*, cataract, dacryocystitis, staphyloma corneæ, etc. The latter class may be subdivided into two classes: (a) those where the element of time is the only distinguishing feature, *e. g.*, teratomata, staphyloma corneæ, etc., and (b) those where the fundamental lesion is the same but where the congenital varieties assume forms rarely seen arising postnatally, and where, consequently, the diagnosis of congenital can usually be made even when the patient is not seen immediately after birth, *e. g.*, lamellar cataract, colobomata, anophthalmos, etc.

The second fact to which it is desired to call attention is that, although these lesions have been classified as separate ones, it by no means follows that they are so found. On the contrary, a congenital lesion of the eye is very frequently associated with other congenital lesions either of the eye or of some other organ. Mention might be made of the frequent association of microphthalmos with orbito-palpebral cysts, or of albinism with deafmutism. Coloboma of the chorioid frequently accompanies on the one hand coloboma of the iris, and on the other coloboma of the optic nerve. Mention has been made of atrophy of the optic nerve accompanying tower-skull. This is not a true congenital lesion of the optic nerve; but as the explanation has been given that the atrophy follows a congenital narrowing of the optic foramen with pressure on the nerve, it was included. With equal justice, the glaucoma which so often follows aniridia might have been included, since the initial stage of the glaucomatous status is frequently overlooked *and may well be congenital.*

No attempt will be made in this report to discuss the etiology of the congenital lesions, nor their tendency toward heredity. A special and very extensive report would be needed to do justice to these phases of the question. With these few preliminary remarks, a diagram of the congenital lesions of the eyes is herewith submitted.

CONGENITAL LESIONS OF THE EYE

A. Physiologic. B. Pathologic.

A. PHYSIOLOGIC

(a) Alexia. (b) Amblyopia. (c) Color Blindness.

B. PATHOLOGIC CONGENITAL LESIONS

I. Lids:

(a) Ablepharia, (b) Insufficiency, (c) Coloboma, (d) Hypertrophy, (e) Epicanthus, (f) Symblepharon, (g) Ankyloblepharon, (h) Blepharophimosis, (i) Dermal Oculopapebral Bridge, (j) Ectropion, (k) Entropion, (l) Albinismus Ciliarum, (m) Trichiasis, (n) Distichiasis, (o) Supernumerary Eyebrows, (p) Cyst, (q) Elephantiasis, (r) Angioma, (s) Nevus Pigmentosus, (t) Dermoid, (u) Neurofibroma.

II. Lacrimal Apparatus:

(a) Absence of Canaliculus, (b) Defective Development of Canaliculus, (c) Stenosis Nasal Duct, (d) Dacryocystitis.

III. Conjunctiva:

(a) Protrusion of Conjunctival Sac Through Palpebral Orifice, (b) Ophthalmia, (c) Cyst, (d) Dermoid, (e) Lipodermoid, (f) Hemangioma, (g) Lymphangioma, (h) Pigmentation.

IV. Episcleral Tissue:

(a) Nevus, (b) Tumors.

V. Bulbus Oculi:

(a) Anophthalmus, (b) Cryptophthalmus, (c) Microphthalmus, (d) Buphthalmus, (e) Cyclopia, (f) Exophthalmus, (g) Cystic Degeneration, (h) Meningocele, (i) Coloboma, (j) Dermoid, (k) Lipochondroadenoma.

VI. Cornea:

(a) Microcornea, (b) Megalocornea, (c) Staphyloma, (d) Sclerophthalmia, (e) Opacities, (f) Melanosis, (g) Defects Descemet's Membrane, (h) Dermoid, (i) Teratoma.

VII. Sclera:

(a) Cyst, (b) Coloboma, (c) Pseudocoloboma, (d) Staphyloma, (e) Peripapillary Ectasia, (f) Negroid Sclerotics, (g) Cyanosis.

VIII. Aqueous Chamber:

(a) Movable Body, (b) Pigment.

IX. Lens:

(a) Ectopia Lentis, (b) Lenticonus, (c) Coloboma, (d) Pigment on Ant. Lens Capsule, (e) Complete Cataract, (f) Incomplete Cataract, (g) Anterior Polar Cataract, (h) Lamellar Cataract, (i) Posterior Polar Cataract, (j) Posterior Pyramidal Cataract, (k) Film-Like Cataract.

X. Vitreous:

(a) Panophthalmitis, (b) Pseudoglioma, (c) Persistent Canal of Cloquet, (d) Persistent Hyaloid Artery, (e) *Persistent* Vitreal Vessels, (f) Persistent Vitreal Bands, (g) Teratoma.

XI. *Iris*:

(a) Albinismus, (b) Heterochromia, (c) Ectropion Strati Pigmenti Iridis, (d) Coloboma Iridis Profundum, (e) Coloboma Stromæ Iridis, (f) Coloboma Iridis Totale, (g) Aniridia, (h) Pseudocoloboma, (i) Persistent Pupillary Membrane, (j) Corectopia, (k) Dyscoria, (l) Polycoria, (m) Atrophia Iridis, (n) Absence Sphincter Iridis, (o) Cyst, (p) Nevus.

XII. Corpus Ciliare:

(a) Hypertrophy, (b) Cyclitis.

XIII. Chorioid:

(a) Albinisms, (b) Ectropion Uveæ, (c) Coloboma, (d) Nevus.

XIV. Retina:

(a) Albinismus, (b Colobomæ Pigmenti Retinæ, (c) Coloboma Retinæ, (d) Coloboma Maculæ, (e) Conus, (f) Ectasia, (g) Neuro-epithelial Invagination, (h) Incomplete Development Outer Nuclear and Outer Reticular Layer, (i) Persistent Medullated Nerve Fibers, (j) Cyanosis Retinæ, (k Hemorrhage.

XV. Nervus Opticus:

(a) Aplasia, (b) Colob[illegible]a, (c) Coloboma Vagi, (d) Holes in Nerve, (e) Grooves, (f) [illegible]trophy with Tower-Skull, (g) Hemorrhage. (h) Pigment. (i) Medullated Nerve Fibers.

XVI. Muscles and Nerves:

(a) Hippus, (b) Ophthalmoplegia Interna, (c) [illegible] Externa, (d) Nystagmus, (e) Strabismus, (f) [illegible] Rectus, (g) Abnormal Insertion Internal Rect[illegible] Abduction Associated with Retraction Globe, (i) *Contraction of Eyelid in Association with Movements of Jaws,* (j) Blepharospasm, (k) Retraction Levator Palpebræ, (l) Ptosis.

XVII. Orbita:

(a) Exostosis, (b) Cyst, (c) Teratoma, (d) Dermoid, (e) Endothelioma Intravasculare, (f) Sarcoma, (g) Angiofibroma, (h) Angioma.

A. PHYSIOLOGIC

Though *Alexia* may be an acquired condition, it is also congeni*tal*. An interesting history is reported by Stephenson of six cases in one family. There is also a true amblyopia congenitalis, which v. Sicherer suggests may be caused by a previous unsuspected congenital retinal hemorrhage, which has been absorbed and has left no gross changes in the fundus. Whether color blindness is a true congenital lesion, or whether all children are color blind at birth, and this condition persists in certain individuals or groups of individuals, will probably never be decided.

B. PATHOLOGIC

I. Lids: *Symblepharon* and *Dermal oculopalpebral bridge* might have been placed with greater justice under the heading of CONJUNCTIVA, while *Ptosis* could be considered a LID affection instead of being classed with the other NEUROMUSCULAR lesions. *Cysts* of the eyelids occur in either the upper or lower lid and very frequently accompany *Microphthalmus.* By *Entropion* is meant not the temporary form so frequently found in infants, but the permanent form requiring active measures for its relief.

II. Lacrimal Apparatus: The *Dacryocystitis* of the new-born is usually of postnasal origin. However, it may arise congenitally as Zentmayer and Fejér report. Mayou has written a very interesting paper describing the condition of the *nasal duct* in *lacrimal abscesses* of the new-born. It may be very small and partly occluded by the inferior turbinate, or it may be filled with débris at birth, or it may be non-patent or only partly so. The *canaliculus,* especially the lower one, may be absent or undeveloped.

III. Conjunctiva: *Ophthalmia neonatorum* is not a true congenital affection, as the infection takes place usually during the act of delivery, and the inflammation does not appear until later. However, Rivaud-Landrau reports a case of *purulent ophthalmia* in the fetus, and there are doubtless many more reported.

IV. Episcleral Tissue: In reporting a case of primary epibulbar melano-sarcoma, Gross states that it developed from a congenital *pigmented nevus.*

V. Bulbus Oculi: The diagnosis of *Anophthalmus* should be made only after a very diligent search for a rudimentary eye, as the case is frequently one of *Cryptophthalmus.* The diagnosis of *Microphthalmus* is frequently made, when what is really meant is a rudimentary eye. *Buphthalmus* is sometimes used to refer to an enlargement of the entire eye and sometimes only to a condition of *megalocornea. Cyclopia* and *meningocele* are usually found in fetuses. *Exophthalmus* may be unilateral or bilateral.

VI. Cornea: Peters reports an interesting *Defect in Descemet's membrane.* Collins in discussing *Staphyloma corneæ* claims that its etiology is the defective development of Descemet's membrane. Holloway gives a long review of the subject of *Melanosis corneæ,* while from the numerous histories of congenital *opacities of the cornea,* the case of McNab has been selected as at the same time illustrating the heredity of the lesion.

VII. Sclera: The most interesting congenital lesions of the sclera are the pigmentation known as *Negroid sclerotics* and the *Cyanosis* of the sclera, caused by an abnormal thinness of the scleral wall, allowing the deeper, pigment layers to shine through. *Coloboma scleræ* is reported as *Coloboma oculi.*

VIII. Aqueous Chamber: As congenital anomalies, *Pigment masses* and a *Movable body* in the aqueous have been reported. However, every anomaly of size of the cornea is reflected in the depth of the anterior chamber.

IX. Lens: The literature dealing with congenital *Cataract* is very extensive. The following forms have been reported: *incomplete, complete, anterior polar, posterior polar, lamellar, posterior pyramidal* and a *film-like cataract.* Another fairly frequent lesion is *ectopia lentis,* where the lens may also be cataractous and shrunken, or a *coloboma* may be present.

X. Vitreous: The most frequent congenital lesions affecting the vitrous are persistent remnants of fetal structures, such as the *Hyaloid artery* and the *Canal of Cloquet.* However, a case of *panophthalmitis* has been reported.

XI. Iris: *Albinism* may show itself as part of a complete ocular albinism, or as a local condition. *Heterochromia* may be acquired, but is frequently a congenital condition. It varies in extent from a small sector in one eye to complete color differences in the two eyes. *Coloboma iridis* varies in extent from a deficiency of either the pigment layer or the stroma, to the total absence of a large sector of the iris. There may be a *bridge of stroma* across the coloboma. On the other hand, the loss of iridal tissue may be so great as to constitute a complete *aniridia,* or it may be so small as to be limited to an absence of the sphincter iridis. The pupil may be *ectopic, distorted* or *multiple.* The *polycoria* may take one of four forms according to Collins: (a) Normal pupil divided by a persistent pupillary membrane, (b) Coloboma with a bridge, (c) congenital iridodialysis, or (d) intact pupil, with iris openings not reaching ciliary margin. Numerous cases of *Persistent pupillary membrane* have been reported, each one assuming a different form from the others.

XII. Corpus Ciliare: Only two congenital lesions of the ciliary body have been reported; viz., *hypertrophy* and *cyclitis.*

XIII. Chorioid: The lesions of the *chorioid* may or may not accompany lesions of other structures, e. g., the iris, optic nerve or retina.

XIV. Retina: *Medullated* nerve fibers may be found radiating from the disc, or isolated in the retina. *Coloboma* may vary from defect of the pigment to absence of all layers. Especially is this *latter found in the macula.* This may be the result of an intra-uterine hemorrhage. *Cyanosis retinæ* due to engorged retinal vessels has been reported.

XV. Nervus Opticus: *Coloboma* may involve the *sheath* alone or the *whole nerve*. It may be accompanied by a *conus*, or may take the form of a *hole* in the disc. *Grooves* of the disc have been reported, varying in size, shape and position. Congenital *pigmentation* of the disc is not so very rare, and may take varied appearances.

XVI. Muscles and Nerves: There may be a complete or incomplete *ophthalmoplegia interna* or *externæ*, though the incomplete external variety is the most common. *Ptosis* is especially frequent. *Nystagmus* also occurs frequently. A curious congenital anomaly is the *simultaneous movements of the upper lid and jaw*.

XVII. Orbita: The congenital lesions of the orbit are *new growths, exostoses* or *cysts*.

Respectfully submitted,

Clarence Loeb.

Report of the Subcommittee on Hygiene of the Eyes

To the Committee on Prevention of Blindness:

In compliance with your request to organize a committee to study the effect of various forms of artificial illumination on the eye, I beg leave to report that such a committee has been formed and, after considerable deliberation, has decided on a definite plan of procedure. We have been most fortunate in obtaining the consent of a number of distinguished physicists and illuminating engineers to serve on the committee and an agreement has about been consummated with the Illuminating Engineering Society whereby we will have the full cooperation of this large and powerful organization.

Several of the large electric lighting and gas illuminating companies have also manifested their willingness to give us whatever aid we may desire, so that it is the opinion of your chairman, that the investigations which the committee will carry on promise to be productive of most excellent results.

After considerable discussion, it has been decided that the first investigations should be along practical lines, and our plans are as follows: The physicists and engineers on the committee will determine on a number of standard lights, that is to say they will furnish the ophthalmologists with some four or six sets of gas and electric lights, of which they have ascertained all the physical characteristics. These lights will then be installed in large rooms where a considerable number of people, a hundred or more, are engaged in some form of labor which requires prolonged and accurate use of the eyes. It shall then be the duty of the ophthalmologists on the committee to make a careful test of the eyes of all those who will be subjected to each form of illumination, both before the trial begins, and a second test some months later. The ophthalmologists will employ all the tests which are in common use in the functional examination of the eyes and in addition, a number of other tests which the physicists and physiologists on the committee will suggest to them.

It is the intention to exhibit the standard lights in a variety of ways, so that some idea may be obtained of the effect of the so-called direct and indirect forms of illumination.

By experimenting with a large number of subjects and noting the average result, it is thought that more valuable and accurate deductions will be obtained, than if the effect of the various forms of illumination was studied on the eyes of single individuals.

It is not the intent of the committee at this time to concern itself with the question of school hygiene, but it is hoped that the investigations may develop much which may be of value in that important subject. The committee is therefore desirous of keeping in touch with the committee from the National Educational Association which is making observations along these lines and wishes to assure that organization of full cooperation.

The actual work of investigation will begin early in the autumn, as it is hoped by that time that the scientists on the committee will have determined on the standards which they desire to have tested.

The committee consists of:

Dr. Louis Bell, 120 Boylston Street, Boston.
Percy W. Cobb, National Lamp Association, Cleveland.
Mr. E. L. Elliott, Illuminating Engineering Pub. Co., 15 West Thirty-Eighth Street, New York.
Prof. Arthur W. Goodspeed, University of Pennsylvania, Philadelphia.
Dr. George Ross Green, 1000 Chestnut Street, Philadelphia.
Dr. Herbert E. Ives, 4503 Hough Avenue, N.-E., Cleveland.
Dr. Edward Jackson, 1434 Glenarm Place, Denver.
Mr. Preston S. Millar, 29 West Thirty-Ninth Street, New York.
Mr. Charles F. Scott, Westinghouse Electric and Mfg. Co., Pittsburg.
Dr. William Sweet, 1205 Spruce Street, Philadelphia.

Respectfully submitted,

William Campbell Posey, Chairman.
Charles O. Bond, Secretary.

Report of the Subcommittee on Industrial Conditions

To the Committee on Prevention of Blindness:

Space forbids a comprehensive consideration of this broad subject. A complete catalogue of the various trades and industries in which accidents, even preventable accidents, causing partial or complete blindness of one or both eyes, although suggestive, would be of little service and would necessarily include nearly all the causes of accidents in general. Consideration will therefore be limited to the following:

1. Common accidents to the eye in foundries, machine shops, mills, and in the building trades, domestic, agricultural and military pursuits, which can be greatly prevented by various known means, as in iron workers, mechanics or weavers.
2. Accidents occurring while handling high explosives as in clay manufacturing, quarrying, mining and railroad construction.
3. Accidents due to bursting of locomotive oil and water gauges, bottles and syphons in bottling.
4. Accidents due to scalds or caustics or exposure to irritating gases and fumes as from hot fluids, molten metals, lime, corrosive acids or alkalis entering the eye-sac.
5. Diseases due to excessive light or heat, e. g., in electric welders, steel smelters, and in those melting or annealing glass.
6. Diseases due to working in certain poisonous gases and fumes, dusts or substances, bisulphids of carbon, lead, etc.
7. Diseases due to occupations requiring prolonged and peculiar use of the eyes, e. g., nystagmus in miners.

1. COMMON ACCIDENTS IN MILLS, TRADES, ETC., WHICH CAN BE GREATLY PREVENTED

These include blows from blunt force and wounds of all description, incised, punched, lacerated and contused, occurring from the use of tools or caused by foreign bodies of all kinds, magnetic or non-magnetic, retained or not within the eye. Ordinary domestic injuries, in addition to the above, include scratches of the conjunctiva or cornea and wounds from knives, scissors, forks, useless air guns, fireworks, improperly carried umbrellas, etc.

Blows from blunt objects on the eye or its surroundings may cause ecchymoses and swelling of the lids, fractures of the orbit, ecchymoses and hematomata of the conjunctiva or orbit, rupture, concussion or dislocation of the eye-ball, rupture or paralysis of the muscles, rupture of or pressure on the optic nerve by hematomas, aneurysms or fractured bones. In addition the iris may be torn, the lens dislocated and the various structures within the eye injured. The base of the skull may be fractured and traumatic exophthalmos or the pulsating variety result.

Small particles are very likely to become lodged in the cornea of workmen of various trades, especially of the iron and steel trades. This is very common in the eyes of grinders, especially dry grinders who do not use a wet stone, small particles of the metal being ground off the stone or emery wheel used. Close examination with a magnifying glass or loupe of the cornea, often peculiarly insensitive, will usually show large numbers of minute scars, sometimes so numerous as to dull the cornea and affect the vision. Fans, making air currents, so as to pull or blow the particles away from the eyes are very important in many trades, also to prevent the inhalation of foreign particles or various noxious gases, thus securing better ventilation and benefiting the general health. Various shield devices, solid and adjustable, are now on the market. They are very generally used by the United States Steel Company and are exhibited in the American Museum of Safety in New York of which Dr. Tolman is in charge. These shields are placed on grinding wheels, circular saws, lathes and many forms of rapidly revolving machinery, helping to prevent particles flying into the workman's face and are a safeguard against accidents in case the revolving parts should break. Recently much has been done to prevent revolving wheels, etc., from breaking by the use of proper compressible washers, larger than the flanges, making proper application and distribution of pressure to a large space on the side of the straight-sided wheels. The flanges are more than one-half the diameter of the wheel and bear only at their circumference on a flat surface. The caliper rest is adjusted as close to the wheel as possible, lessening the danger of the material being caught between the wheel and the rest. Large protecting glasses or the worker's own lenses, if he requires any, are also of much service in preventing particles getting into the eyes, as well as for saving the eyes from more dangerous accidents from large flying particles. Glass protectors are also made surrounded by wire gauze as in goggles. Unfortunately they get dirty and marked with the frequent blows from flying particles so that the workmen, unwilling to accept such pressing testimony of their use, too often lay them aside.

Injuries from these small flying particles may be slight or serious. Sometimes small particles puncture the coats of the eye-ball and unless removed, especially if metal, endanger both eyes by causing sympathetic inflammation, which according to Magnus is the cause of from 4 to 4.5 per cent. of total blindness. In some cases infection results, giving rise to dangerous ulcers which sometimes destroy partially or wholly the eyesight or even the eye-ball. Serious accidents to other parts of a workman or even other workmen sometimes occur because an operator getting something into his eyes cannot see sufficiently to manage machinery. The opportunities for slight or severe eye injuries in iron and steel workers are multitudinous and occur in all branches of the work, light or heavy.

Many of these accidents occur in chipping, fettling or dressing rough edges of castings, ingots and even large armor plates. These chippings are very brittle and sharp and fly about, often bounding from objects which they strike. They are caused by one or two strikers hitting a chisel held against the offending part by another man. Not only particles are likely to fly from the metal struck but from either end of the chisel or from the hammers of the strikers. S. C. Ayers pointed out that cheap hammers and chisels of poor quality are frequent causes of eye accidents in mechanics. Care is taken in some shops to examine carefully and regularly these tools to prevent accidents. Pneumatic chippers are safer. Passersby and other workers may be protected by chiseling against a wall or a screen covered with canvas or burlap which will hold the flying particles and not reflect them. Brick cleaners should take similar precautions.

Burning sparks and flashes are common from molten metal running into molds, in great or small forgings, by hand, steam or hydraulic hammers. When there is great heat glass protectors to the eyes are of little service, but good safe protectors of wire gauze covering both eyes and face, especially those with asbestos over mouth and neck, are useful. Rusting may be provided against by making the frames of galvanized iron or aluminum wire.

Coal miners are likely to be injured by small particles of coal or splinters from the pick point becoming embedded in the cornea, abrading its surface or cutting it. Such injuries are particularly likely to become septic. Agriculturists often meet with eye accidents in threshing, chaff cutting, hedging, in distributing artificial fertilizers and by the entrance into the eye of spears of grains and grasses, twigs and leaves, also from insects and their stings. These injuries are usually produced by vegetable substances, straw, beards of wheat, etc., and are likely to become infected. Cowhorns, claws and kicks from animals cause many accidents. Special forms of affection result in taking care of some plants, as ophthalmia among hop pickers, due to entrance of fine, thin hairy-like processes from the hop leaves. Dusty labor is likely to cause troublesome eye conditions, as in sawmills from flying sawdust and knots, at threshings, in handling coal and ashes, in flour mills and from fine particles of copper off trolleys, but the eyes can be greatly protected by proper goggles.

Stone masons, grindstone makers, quarrymen, bricklayers and stonebreakers can partially protect their own eyes by proper protectors and should be more careful to dress their work against some wall where passersby will not be so likely to be injured. Wire drawing where great tension is placed on the wire causes accidents from breaking or slipping of the wire which backlashes and may strike some one. In weaving there is great danger of a flying shuttle striking the eye but many patterns of guards are now on the market to prevent this. Some are known as wing guards, consisting of a wire screen or canvas placed between the looms; others provide means to prevent the shuttle from rising. The military man and sportsman are subjected to the danger of small and large shot and bullets, shell explosions, sword and bayonet injuries and explosions of various kinds.

There are various processes involving exposure to irritating dusts, as to the dust of graphite in the manufacture of stove polish, bronze powder, while bronzing in lithographing, in all processes of grinding, glazing or polishing, and while talc (soapstone) dusting in rubber manufacturing. In sorting, dusting, cutting or grinding rags, and in cutting, boring, turning, planing, facing, doming, grinding or polishing pearl shell, dust is also likely to get into the eyes. Everywhere in the air volcanic and meteoric dust is present, the latter consisting of tiny spherical shot-like pellets, 1/200-1/500 of an inch in diameter. The flinty shells of diatoms, tiny plants, and dust from sandstones and deserts often get into the eyes. The pollen of plants as from pine trees, scales from the wings of butterflies and other insects, really hairs as from caterpillars, also get into the eyes.

2. ACCIDENTS WHILE HANDLING HIGH EXPLOSIVES AS IN QUARRYING, MINING AND RAILROAD CONSTRUCTION

Blasting in mining, quarrying, etc., causes a large number of accidental injuries. These accidents are particularly likely to destroy both eyes, removing the earning capacity of the individual and possibly throwing him on the community for support. Powder grains are often embedded in the eye-balls, lids or face. Most high explosives unlike gunpowder are not exploded by simple ignition but require an exploder. Poor fuses or explosives, possibly frozen, with improper loading cause premature blasts or misfires. Accidents usually occur from drilling these "missed holes," striking an unexploded piece of explosive or cap packing with a metal instead of a wooden tamping rod, carelessness with cigar ashes, hot candle grease or in handling the explosives. Donovan (The Journal A. M. A., Aug. 5, 1905) states that blasting injuries with few exceptions result from want of care on the part of the patient, his associates or his predecessors at work. Large quantities of explosives, whether solids, liquids or gases, should not be stored in any one place especially in thickly settled communities. Greater care in proper insulation of electric wiring in such regions and the prevention of the possibility of sparks by short circuiting should be observed. Licensing of "powder men" and better government inspection of the manufacture, storage and sale of explosives would be helpful.

3. ACCIDENTS DUE TO BURSTING OF WATER GAUGES, BOTTLES AND SYPHONS IN BOTTLING

Gauges on every description of steam boiler frequently break, injuring by flying pieces of glass, or scalding by the steam or hot water. The slowly soluble gauges are worn by the friction of the moving fluids within and may be protected by surrounding them with wire netting or plate glass protectors open at the back so that the direction of an explosion may be controlled. The chief danger comes when putting in a new glass after one is broken. On turning the hot water into the cool glass it suddenly breaks. The United States Steel Co. has swinging wire protectors that may be placed in front of these gauges until the glass has been warmed and tried when the protector is swung out of the way so that the gauge can be more readily seen by the engineer at a distance. These accidents occurring to engineers who require a high degree of visual acuity greatly lessen their earning capacity and at the time of the accident may endanger many lives and much valuable property.

In the manufacture of aerated waters and in bottling beverages of nearly all kinds, the frequent bursting of bottles and syphons is very dangerous to the eyes. The bottles are cleaned, filled, corked and wired by machinery and in all the various processes and inspections which are necessary, there is danger of the bottles bursting. The dangerous trades committee of England, 1896, recommended that all bottlers, wirers, sighters and labelers while at work should be provided with face guards, masks or veils of wire gauze. They also recommended the providing of gauntlets for the arms and the fencing with wire gauze of all machines for bottling, to prevent fragments of bursting bottles striking any workers.

4. ACCIDENTS DUE TO SCALDS OR CAUSTICS OR EXPOSURE TO IRRITATING GASES AND FUMES

Scalds or burns usually involve the eyelids, the deeper burns affecting the eye generally resulting from explosions as in preventable Fourth of July accidents. Powder burns should be treated with hydrogen peroxid, afterward applying 5 per cent. boric or other simple ointment. Powder grains or other foreign bodies in the cornea require the use of a local anesthetic and spud. Burns in masons, plasterers and bricklayers caused by lime, especially unslaked lime, CaO, sometimes result in destruction of the cornea and frequently in traumatic pterygia and adhesions between the eyelids and globe and, because of chemical combination with substances in the cornea, produce permanent opacities. When unslaked lime gets into the eye it should be wiped out by a dry clean cloth or washed out with liquid petrolatum, castor or olive oil. If this is not done at once the lime will soon be slaked by the tears and then large quantities of water can be used to help remove it. Besides causing actual destruction, lime and cement have irritating qualities sometimes occasioning conjunctivitis and even ulceration of the cornea with loss of vision in those who work constantly with these substances. There are also various caustics employed as in the manufacture of chemicals, alkalies and acids. Proper, clearly worded signs giving warning of the dangers from careless handling of caustics in shops and schools, would lead to greater care being exercised. In accidents caused by unslaked lime and certain corrosive fumes, workmen should pour liquid petrolatum, olive or even castor oil (quantities of which should be kept handy in certain trades) into the eye. Ammonia burns should be treated immediately by profuse irrigations with water according to Pichler. (Cauterization of the Eye and Epidermis by Ammonia, *Zeitschr. f. Augenh.*, April, 1910, xxiii, 297.) For workmen compelled to use certain acids or alkalies proper neutralizing washes should be supplied so that fellow workmen, properly instructed, may use them at once. After burns of the cornea by acids, H. Guillery ("Chemical and Clinical Investigations on Cauterization of the Cornea," *Archiv für Augenheilkunde*, lxv, 139) advises bathing the eyes with 0.5 per cent. solution of hydrate of potash and claims that the opacities from lime may be partially cleared by the use of a 10 per cent. solution of chlorate of ammonia with 0.1 per cent. tartaric acid. For lime burns Würdemann advises copious washings with cold water and the use of 3 to 10 per cent. solution of ammonia chlorid, the calcium being dissolved and carried away. Any mildly acid solution may be used for recent burns with alkalies. H. Schmidt asserts that corneal burns from acids are likely to cause opacities of the lens. (*Zeitschrift f. Augenh.*, March, 1910, xxiii, 341). Exposure to irritating gases and fumes takes place chiefly in gassing in textile factories, singeing in print works, in bleaching and dyeing works and in dipping metals in acid solutions.

5. DISEASES DUE TO EXCESSIVE LIGHT OR HEAT, E. G., IN ELECTRIC WELDERS, STEEL SMELTERS AND IN THOSE MELTING OR ANNEALING GLASS

Metal polishers and buffers brightening surfaces, which they must closely watch, often suffer with hyperesthesia of the retina. This can be relieved by proper lenses or colored glasses. Excessive heat and light are met with in iron and steel works. Men can watch a furnace until the temperature is up to 2,000 F. but before it gets to 3,000 F. colored glasses should be worn. In working with cast iron, 1,800-2,000 F., the men take few precautions; with molten metal, 2,700-2,800 F., deep blue glasses are necessary. With Bessemer metal, 3,000-3,200 F., the process is completed in about twenty minutes and only one man needs to watch the metal which he does with a spectroscope about thirty feet distant. The Siemons process takes ten hours and all the men, wearing colored lenses, make observations frequently. If some of these hot furnaces are looked into without lenses it is several minutes before the eye can see ordinary objects again. Some men seem to have surprising immunity from bad results in dealing with these white hot furnaces, others cannot endure them and must change their work. Snell doubts the greater frequency of cataract in glass blowers and iron workers than in others, although both are subjected to great heat and consequent loss of moisture. Herbert Parsons and Marcus Gunn in 1908 visited some of the important glass works in England to gather statistics of industrial diseases for the framing of the Workmen's Compensation Act. They state that bottle makers have a characteristic form of cataract, typically, a dense well defined disk of opacity in the center of the posterior cortex. Often slight opacities surround this posterior cortical disk. Excessive heat and bright light are said to be the causes but the Germans claim that heat is the most important cause. Weyl mentions, besides glass blowers, fire workers, puddlers, blacksmiths, bakers and cooks.

Great care is required to avoid very strong light flashes before the eyes as in short circuits and electric welding. In the latter large shields are worn in the center of which are four alternate layers of blue and red glass. Helmets and screens with four or six layers of red and green glass are often used. The temperature in electric welding goes as high as 7,000 F., but the question of whether it is the heat or the chemical rays that act so harmfully has not been settled. If the eyes catch the light they are affected at once but chiefly some hours after. They feel swollen as if filled with burning sand and the pain is usually very severe, the lids are swollen and there is much lacrimation. Intense light as from electric and vapor lamps, from exposure to snow or after observing an eclipse, frequently causes a superficial ophthalmia and may affect the lens and retina. Schanz and Stockhausen found that the superficial irritation could be prevented by a screen of Euphos glass which absorbs ultra-violet rays. W. H. McMullen (*Ophthalmic Review*, April, 1910) claims that this could be done with plain glass which absorbs rays of wave length less than 300 mikrons. He thinks opacities in the lens result when the wave lengths are between 300 or 400 mikrons but that the rays of greater length as well as the short cause the retinal changes. Würdemann states that electric light flashes or lightning may cause cataract and by being focused on the macula destroy the central retinal elements.

6. DISEASES DUE TO WORKING IN POISONOUS GASES AND FUMES, DUSTS OR SUBSTANCES

Dinitro-benzol is largely employed in making explosives. During the various processes of its manufacture fumes are given off which affect vision. These can be lessened by properly covering the mixtures and by the use of fans and exhaust apparatus. Respirators and glasses are used. The general circulatory and nervous effects are fully described by Snell (*British Medical Journal*, Vol. i, 1892) and he outlines many excellent suggestions for preventing deleterious effects in manufacturing this substance. Bisulphid of carbon, formerly much used in vulcanizing rubber, caused impaired eyesight but this process has been so greatly modified that it is now of little importance in causing ocular lesions. Toxic amblyopias due to tobacco, ethyl alcohol and wood alcohol are to be considered by my associates on this committee.

The eye affections formerly attending the manufacture of iodoform have by care been eliminated. A few cases of eye involvement have been reported in dye factories from handling the various coal tar preparations. Arsenic from wall paper, artificial flowers and paris green, paper hangings and paintings, also when used for medical or cosmetic purposes, according to Casey Wood has caused various visual disturbances. Painters, plumbers, electrotypers, filecutters and many others, through handling lead, are likely to get chronic lead-poisoning causing central and peripheral affections of sight, various paralyses, retrobular neuritis, etc. Lead-poisoning is also found among those manufacturing white, yellow, orange and red lead, lead pipe, solder and plumbers' supplies and in cutting metal articles composed of lead or lead and tin; in grinding lead paint, making storage batteries, cleaning or handling printing type and in glazing in pottery establishments. Poisonous gases and fumes are found in shoe cement, japanned or patent leather and rubber manufacturing where the mixtures containing naphtha are sometimes allowed to remain in uncovered containers and proper ventilation is not insisted on. Poisonous gases are also formed in certain lead processes.

7. DISEASES DUE TO OCCUPATIONS REQUIRING PROLONGED AND PECULIAR USE OF THE EYES

Nystagmus in miners, due to their peculiar way of looking at their work, is fully described by Snell. He states that treatment consists in changing the kind of work. After relief the miner can return to his work if the head can be kept straight and the eyes are not often turned upward. Snell mentions several other occupations which he has thought might cause nystagmus.

PROPHYLACTIC MEASURES

In the effort to decrease blindness from industrial accidents the following considerations should be kept in mind:

A. The importance of prompt and skilful first aid and means by which it can be secured.

B. The more general use of well known aids to the physician, hospital, Roentgen ray, proper antiseptics, etc.

C. Why the public should be interested.

D. How to secure the cooperation of the employer in the prevention of accidents and diseased conditions arising in the various industries.

E. How to interest and secure the active cooperation of the employee in the same cause or crusade.

A. THE IMPORTANCE OF PROMPT AND SKILFUL FIRST AID AND HOW IT CAN BE SECURED

The importance of prompt and skilful first aid can scarcely be realized by those who do not treat many injured eyes. In factories and work shops, especially in the iron and steel industries, small particles of iron, emery or other stone very frequently strike and become embedded in the cornea. This is so frequent that the corneæ of many of these workmen studded with small scars, more or less reducing visual acuity, especially if located in the central zone, acquire a certain degree of insensitiveness. The workman's usually quick recovery begets carelessness and fellow workmen without any knowledge of necessary surgical cleanliness, but nevertheless with a certain skill, remove the offending foreign body. This is done with dirty hands decorated with unclean finger nails and by filthy crude instruments, such as a foul handkerchief or toothpick possibly removed from a never germ free mouth, blade of a pocket knife, blunt lancet, pin, tongue, etc. Snell found many of these instruments were free from dangerous infections. The wonder is that more infectious ulcers do not occur, but the foreign bodies are frequently sterilized by heat before entering the eye-sac. The improper use of poultices and of flax seed or eye stones destroys many eyes. Without the proper use of local anesthetics, good control of light and magnifying loupe, the removal of the small and more deeply embedded particles, sometimes projecting into the anterior chamber, is attended with great difficulty and danger; the eye not being easily controlled or seen, much precious tissue is often unnecessarily scraped away in futile efforts to dislodge the offending particle. No antiseptic is employed to weaken or destroy at least partially the infectious germs, often carried into the eye by the foreign body, and no eye-wash is supplied to secure greater cleanliness afterward. Ophthalmias, iritis, infected ulcers, with resulting scars, partial or total blindness and even loss of the eye and sometimes of the fellow eye occasionally follow such unskilled attempts to remove simple foreign bodies. When the eye-ball has been punctured, especially if the eye-sac has already been infected from a tear-sac infection or other cause, infections of the interior of the eye will frequently result without early trained attendance.

Snell supplied some of the more expert workmen in Sheffield with iridium-platinum bent pointed spuds the points of which are sterilized in the flame of a spirit lamp before use. No one but a surgeon or trained nurse, however, can understand the details of keeping an instrument clean, presuming that it was clean to begin with. The loss of time due to unnecessarily severe inflammations, the impaired usefulness of valuable employees has brought about the rule in several shops, that no workman shall attempt to remove foreign bodies from the eyes of fellow workmen, and that employees so injured shall be sent to a competent surgeon at once. First aid before the surgeon can be secured usually should be limited to the early use of oils or neutralizing washes after burns from lime or chemicals and to covering the injured eye with clean cloths or gauze. In some trades where certain forms of accidents are common the surgeon, with advantage, could train some one in the proper use of cold applications to help prevent infections.

B. THE MORE GENERAL USE OF WELL-KNOWN AIDS TO THE PHYSICIAN, ROENTGEN RAYS, PROPER ANTISEPTICS, HOSPITAL, ETC.

A trained ophthalmologist will often find his whole skill and knowledge put to the test in caring for eye injuries, and it is unnecessary and impossible to outline methods for caring for so many different conditions. The treatment of ocular traumatisms is based on general surgical principles and may consist in removal of foreign bodies, cleansing and coaptation of the edges of the wound, the use of proper occlusive bandages, special operations as iridectomies, protection by sliding conjunctival flaps, atropin to retract the iris and quiet the ciliary muscle, dionin to relieve pain and hasten absorption, cold applications to prevent infection and hot to assist absorption of exudates. The prevention of infection in operations and care that injuries are not done to other structures as the lens in doing an iridectomy are important. The use of antiseptic ointments and subconjunctival injections are often advisable. The interests of the patient and the possible liability of the employer often demand a careful and full history of the accident and subsequent care, also a guarded prognosis, as so much depends on previous conditions possibly due to former injuries. In all cases after removal of an imbedded foreign body and in most cases where a foreign body has even become lodged under the lids, depending on the probability of an infection and its nature, I drop one drop of a 1 or 2, and rarely 3 gr., to the ounce silver nitrate solution in the eye-sac. A mild-unirritating alkaline antiseptic wash with an eye-bath and proper directions as to use are nearly always supplied. Where ulceration or iritis has already commenced mydriatics, cathartics, etc., are also prescribed. Rest should often be secured by bandages and cycloplegics and sometimes by the use of antispasmodics and hypnotics.

Roentgen ray negatives, as a means of determining the presence and location of a foreign body, except wood or other vegetable matter, in the eye-ball, sooner or later dangerous to one or both eyes, are very valuable. Magnets, large and small, are often necessary for the removal of magnetizable foreign bodies. The safety of their use for diagnosis is questionable; no anesthetic in such cases should be used as pain is a valuable sign. The current should be turned on and off with the magnet at a safe distance from the eye. Non-magnetizable foreign bodies are becoming more frequent with the increasing use of magnesium and nickel steel and the more common use of copper and other non-magnetizable substances. Sweet (*Ophth. Record*, October, 1909) states that the loss of eyes injured by foreign bodies depends not only on the size of the piece but greatly on the length of the period elapsing between the injury and removal. It is safer to learn the position, shape and size of the foreign body before determining to remove it through the original wound, if recent, or through an opening in the sclera. For the detection of injuries and foreign bodies stains with aniline dyes, as 2 per cent. fluorescin, focal illumination, magnifying loupe, ophthalmoscope, Würdemann's diaphanoscope and, except in large cities and in the neighborhood of electric currents or where there is much vibration, the sideroscope, are useful. Many firms are now establishing first aid dispensaries with a trained nurse in charge and depending on the size, nature and enthusiasm of the firm, this develops into a temporary hospital ward or even a hospital, where other hospital facilities are not accessible. Physicians are in attendance at these hospitals during certain hours when treatment and dressings are made by physician and nurse.

C. WHY THE PUBLIC SHOULD BE INTERESTED

Lans states that of all accidents in the Netherlands, 1903 to 1904, 4 per cent. were on the eye. Mr. Watson, secretary of the British Miner's Benefit Fund, ("Dangerous Trades," Thomas Oliver) gives the total of 2,506 eye accidents out of a total of 48,262, a percentage of 5.19. The percentage of eye accidents would naturally be greatest in populous industrial districts and among men. Snell states that of 2,554 patients who passed through the wards of the Sheffield Royal Infirmary 2,038 were men and 516 women; of the men, 622 or 30.52 per cent. were admitted for accidents; of the 516 women only 6.9 per cent. were for accidents. According to Würdemann (H. V. Würdemann, "Injuries to the Eye and Adnexa," *Northwest Medicine*, February, 1909) Frieuzal found 9.8 per cent. of blindness due to injuries; Trousseau, 16.32 per cent.; Magnus, 10.76 per cent.; Fuchs, 7.9 per cent. In 1900 of 75,568,686 inhabitants in this country there were 64,763 blind; 35,645 totally blind; 4,462 totally, 2,226 partially blind (a total of 10.33 per cent.) from injuries, accidents and operations. This was a decrease of 586 from the 1890 figures although the population had increased 12,944,436. E. L. Elliott believes there are 20,000 more or less serious injuries to the eyes of workmen through accidents, chiefly preventable, in this country each year. F. W. Miller (THE JOURNAL A. M. A., Aug. 5, 1905) states that ocular traumatisms are becoming more frequent with the increase of mechanical appliances, rapid transit, etc., and the more general use of chemicals and gases. On the other hand, according to census figures the frequency of blindness due to accidents is becoming less, due partially to the more general use of safeguards against accidents, especially industrial accidents, and partly to the better management and care which these cases now receive. Würdemann states that a loss of 20 per cent. of visual acuity in the higher trades and 50 per cent. in the lower materially lessens the earning ability, the ratio being decreased in arithmetic proportion until the individual is incapable of earning anything, becoming a charge on the family or community. The young blind may be taught to substitute partially the other senses for eyesight, but the adult suddenly becoming blind finds this difficult and often impossible. Arbitrary legal rules, accident insurance companies, the United States Pension Office and the indemnity laws of England, France, Germany and other countries consider the total loss of eyesight equal to the loss of life. The loss from total blindness of one eye or of partial blindness of one or both depends on many factors, but scientific examination and calculation have determined the effect of a certain loss of vision on earning ability. Insurance will demand greater care to eliminate the unscrupulous who simulate eye disease or exaggerate it, and therefore entrance and periodic examination of the visual acuity of workmen will be made necessary. Persons with only one good eye would be damaged more in proportion where it was lost than where a good eye remained, especially if the vision of the damaged eye had been subnormal before the accident. Lans ("Traumatic Affections of the Eye," *Tydschr. V. Gen.*, December, 1908) collected statistics of the earning capacity of fifty consecutive patients with monocular blindness from accident. Of this number two earned constantly less through change of work, two temporarily less, thirty-eight as much as before accident and eight, more. The public therefore should be greatly interested in the prevention of blindness from industrial accidents, not only from a sentimental or humanitarian standpoint but from an economic one as well. Partial or total reduction of vision lessens efficiency and therefore makes many victims a charge on society. Great sums of money are expended in teaching and caring for the victims of industrial accidents. The laity should be educated as to the seriousness of even slight injuries when infected which may cause loss of eyesight or eyeball. In "Work-Accidents and the Law" (the "Pittsburg Survey"). Crystal Eastman has shown that of eleven men who lost an eye, three received nothing as compensation and all $623 or $56.63 average for each eye. This kind of investigation calls attention to the need of proper compensation laws and several states now have commissions investigating the compensation of workmen for their injuries. Montana has passed a law, (1909, Chapter 67, Page 81), which has the following for compensation of injuries to coal miners and employees of coal washers. Total or permanent disability includes total loss of eyesight. Compensation monthly, from an insurance fund, of not to exceed a dollar each working day, and if death as a result of injury ensues within one year, $3,000 shall be paid dependants. Loss of one eye shall be compensated in the sum of $1,000.

D. HOW TO SECURE COOPERATION OF EMPLOYER IN PREVENTION OF ACCIDENTS AND DISEASED CONDITIONS

Recently some of our great industries have made tentative plans for the relief or compensation of injured employees. The United States Steel Corporation provided six months' wages for the loss of an eye, plan of relief on trial for one year from May 1, 1910. During the same months the International Harvester Co. tried a plan. For tne total loss of sight of one eye they paid three-quarters average yearly wages and for the total loss of both eyes four years average wages but not less than $2,000. An important institution, American Museum of Safety, in charge of Dr. Tolman, has been established in New York and generously supported by American manufacturers. Its purpose, like those in Europe, is to exhibit various devices to prevent industrial and other accidents and several appliances are shown that will be of special service in protecting the eyes. Among them are protective hoods for grindstones in case of breakage, and to prevent particles flying into the eyes; exhaust fans, gasoline and oil lamps, and containers from which these fluids may be poured through a fire without exploding; paper towels, which would appear to be a simple way to eliminate the danger of infection to the eyes in industrial lavatories; protective screens, lenses, etc. With increased public attention to the desirability of preventing industrial accidents in general will come interest in the prevention of the causes of eye accidents and blindness. One of the basic causes of industrial accidents is insufficient or badly distributed illumination. Mr. John Calder has observed that there is an increased percentage of accidents each year during November, December and January, the months of minimum daylight, especially in the years of greatest prosperity when more work is done by artificial light. Over-illumination of certain parts with surrounding darkness or shadows, imperfect diffusion, is a common cause of accidents, eye fatigue and lowered human efficiency, always a wasteful attempt at saving.

The resulting agitation for and securing of better legislation dealing with the compensation of injured employees will further excite the interest and cooperation of the already usually willing employer to provide safety appliances, danger signals and rules for the protection of the employee. Manufacturers and transportation companies find prevention of accidents important in not only protecting the employees but their own goods and machinery, preventing the loss of services, cost of care, expense of treatment of the injured employee and making litigation and damage suits unnecessary. It is a profitable as well as a humane policy to make factory work as safe and healthful as possible and thus secure better contented workmen, really placing less burden on the ultimate consumer who necessarily has to support the victim of industrial accidents. One great item in lowering the cost of production lies in lessening these accidents.

E. HOW TO SECURE ACTIVE COOPERATION OF THE EMPLOYEE

The most difficult problem is how to secure the cooperation of the employee. He becomes accustomed to his danger, lays aside his protecting lenses when they become soiled or studded with hundreds of abrasions caused by flying particles, etc., as a hindrance in his work, accepting the risks which he too often underestimates. Employees reluctantly use protective appliances unless frequently watched and warned. The United States Steel Corporation is doing splendid work, in providing safety appliances, rules and signs in the various languages of their employees, and have special departments of safety which have successfully secured the cooperation of their employees in the prevention of accidents. See "Work-Accidents and the Law" (Crystal Eastman, Russell Sage Foundation Publication). Undoubtedly much can be done to secure the cooperation of the employee by educating him as to the danger of neglect of certain precautions, and if pressure is properly applied by employer and fellow workmen in the interest of all concerned, the workman's too frequent indifference to safety appliances should soon disappear.

Mark D. Stevenson, Chairman.

Report of the Committee on Scientific Research

The report of the Committee on Scientific Research was called for and, in the absence of the Chairman, was read by the Secretary. It was referred to the Reference Committee and was as follows:

To the Members of the House of Delegates of the American Medical Association.

Your Committee on Scientific Research would report that it has made for the current year four grants of $200 each for work to be reported at the meeting at Los Angeles as follows:

I. Dr. R. M. Pearce of Philadelphia for the following pieces of work:
  1. Studies of Experimental Bland Infarction. H. T. Karsner and J. H. Austin.
  2. The Relation of Toxic Doses of Horse Serum to the Protective Dose of Atropin in Anaphylaxis. H. T. Karsner and J. B. Nutt.

II. A grant to Dr. E. C. Rosenow, of Chicago, for work on Autolysis of Pneumococci.

III. A grant to Dr. Mary Rawley Lawson of Boston, for work on The Development of the Tertian Malarial Organism.

IV. A grant to Dr. Karl K. Koessler, of Chicago, for work on Antibodies in Scarlet Fever.

Some other applications made could not be granted on account of the time of application, and the committee has, as in the past, restricted its grants to individuals who give reasonable promise of some useful contribution.

Alfred Stengel, Chairman.

Report of the Committee on Davis Memorial Fund

The report of the Committee on Davis Memorial was next presented, being read by the Secretary in the absence of the Chairman. It was referred as usual and was as follows:

To the Members of the House of Delegates of the American Medical Association:

Last year I tendered my resignation as chairman of the Davis Memorial Committee to your honorable body. Until very recently I had supposed it had been accepted, when your President wrote me to the contrary and asked for a report.

I beg to suggest that this may be considered final. I acknowledged last year, in my report, a disappointment that was in a measure humiliating, that your committee was unable to report a better success. I would suggest that a memorial letter be issued by the House of Delegates to the different state societies, asking a special appropriation for this worthy object. Massachusetts and Iowa are to be excepted, since they have already contributed liberally.

The Association itself voted conditionally to contribute $500. In view of this I would suggest: (1) that the chief hall in the new building be dedicated to the memory of Dr. Davis as the Nathan S. Davis Memorial Hall; (2) that a bronze bust of Dr. Davis be placed in the hall, this to be paid for out of the funds already in the treasury; (3) that such portion of the fund as remains be designated the N. S. Davis Lecture Fund, the income of which shall be used for this purpose, as the Trustees of the Association may designate.

Henry O. Marcy, Chairman.

Report of the Council on Medical Education

Dr. Arthur D. Bevan, Chicago, Chairman, presented the report of the Council on Medical Education as follows. It was referred to the Reference Committee on Medical Education.

To the Members of the House of Delegates of the American Medical Association:

STUDY OF MEDICAL EDUCATION

The Council on Medical Education has now devoted seven years to the study of medical education. Not only has this been done through the obtaining of valuable data from all posof these instruments were free from dangerous infections. The wonder is that more infectious ulcers do not occur, but the foreign bodies are frequently sterilized by heat before entering the eye-sac. The improper use of poultices and of flax seed or eye stones destroys many eyes. Without the proper use of local anesthetics, good control of light and magnifying loupe, the removal of the small and more deeply embedded particles, sometimes projecting into the anterior chamber, is attended with great difficulty and danger; the eye not being easily controlled or seen, much precious tissue is often unnecessarily scraped away in futile efforts to dislodge the offending particle. No antiseptic is employed to weaken or destroy at least partially the infectious germs, often carried into the eye by the foreign body, and no eye-wash is supplied to secure greater cleanliness afterward. Ophthalmias, iritis, infected ulcers, with resulting scars, partial or total blindness and even loss of the eye and sometimes of the fellow eye occasionally follow such unskilled attempts to remove simple foreign bodies. When the eye-ball has been punctured, especially if the eye-sac has already been infected from a tear-sac infection or other cause, infections of the interior of the eye will frequently result without early trained attendance.

Snell supplied some of the more expert workmen in Sheffield with iridium-platinum bent pointed spuds the points of which are sterilized in the flame of a spirit lamp before use. No one but a surgeon or trained nurse, however, can understand the details of keeping an instrument clean, presuming that it was clean to begin with. The loss of time due to unnecessarily severe inflammations, the impaired usefulness of valuable employees has brought about the rule in several shops, that no workman shall attempt to remove foreign bodies from the eyes of fellow workmen, and that employees so injured shall be sent to a competent surgeon at once. First aid before the surgeon can be secured usually should be limited to the early use of oils or neutralizing washes after burns from lime or chemicals and to covering the injured eye with clean cloths or gauze. In some trades where certain forms of accidents are common the surgeon, with advantage, could train some one in the proper use of cold applications to help prevent infections.

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A trained ophthalmologist will often find his whole skill and knowledge put to the test in caring for eye injuries, and it is unnecessary and impossible to outline methods for caring for so many different conditions. The treatment of ocular traumatisms is based on general surgical principles and may consist in removal of foreign bodies, cleansing and coaptation of the edges of the wound, the use of proper occlusive bandages, special operations as iridectomies, protection by sliding conjunctival flaps, atropin to retract the iris and quiet the ciliary muscle, dionin to relieve pain and hasten absorption, cold applications to prevent infection and hot to assist absorption of exudates. The prevention of infection in operations and care that injuries are not done to other structures as the lens in doing an iridectomy are important. The use of antiseptic ointments and subconjunctival injections are often advisable. The interests of the patient and the possible liability of the employer often demand a careful and full history of the accident and subsequent care, also a guarded prognosis, as so much depends on previous conditions possibly due to former injuries. In all cases after removal of an imbedded foreign body and in most cases where a foreign body has even become lodged under the lids, depending on the probability of an infection and its nature, I drop one drop of a 1 or 2, and rarely 3 gr., to the ounce silver nitrate solution in the eye-sac. A mild-unirritating alkaline antiseptic wash with an eye-bath and proper directions as to use are nearly always supplied. Where ulceration or iritis has already commenced mydriatics, cathartics, etc., are also prescribed. Rest should often be secured by bandages and cycloplegics and sometimes by the use of antispasmodics and hypnotics.

Roentgen ray negatives, as a means of determining the presence and location of a foreign body, except wood or other vegetable matter, in the eye-ball, sooner or later dangerous to one or both eyes, are very valuable. Magnets, large and small, are often necessary for the removal of magnetizable foreign bodies. The safety of their use for diagnosis is questionable; no anesthetic in such cases should be used as pain is a valuable sign. The current should be turned on and off with the magnet at a safe distance from the eye. Non-magnetizable foreign bodies are becoming more frequent with the increasing use of magnesium and nickel steel and the more common use of copper and other non-magnetizable substances. Sweet (*Ophth. Record*, October, 1909) states that the loss of eyes injured by foreign bodies depends not only on the size of the piece but greatly on the length of the period elapsing between the injury and removal. It is safer to learn the position, shape and size of the foreign body before determining to remove it through the original wound, if recent, or through an opening in the sclera. For the detection of injuries and foreign bodies stains with aniline dyes, as 2 per cent. fluorescin, focal illumination, magnifying loupe, ophthalmoscope, Würdemann's diaphanoscope and, except in large cities and in the neighborhood of electric currents or where there is much vibration, the sideroscope, are useful. Many firms are now establishing first aid dispensaries with a trained nurse in charge and depending on the size, nature and enthusiasm of the firm, this develops into a temporary hospital ward or even a hospital, where other hospital facilities are not accessible. Physicians are in attendance at these hospitals during certain hours when treatment and dressings are made by physician and nurse.

C. WHY THE PUBLIC SHOULD BE INTERESTED

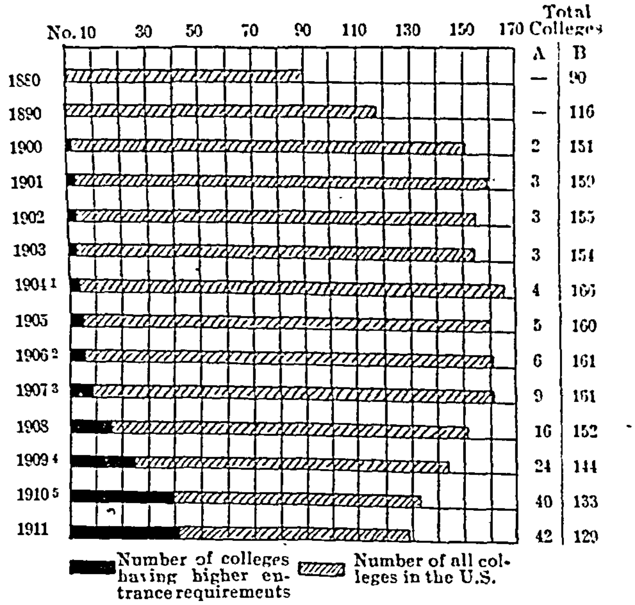
Lans states that of all accidents in the Netherlands, 1903 to 1904, 4 per cent. were on the eye. Mr. Watson, secretary of the British Miner's Benefit Fund, ("Dangerous Trades," Thomas Oliver) gives the total of 2,506 eye accidents out of a total of 48,262, a percentage of 5.19. The percentage of eye accidents would naturally be greatest in populous industrial districts and among men. Snell states that of 2,554 patients who passed through the wards of the Sheffield Royal Infirmary 2,038 were men and 516 women; of the men, 622 or 30.52 per cent. were admitted for accidents; of the 516 women only 6.9 per cent. were for accidents. According to Würdemann (H. V. Würdemann, "Injuries to the Eye and Adnexa," *Northwest Medicine*, February, 1909) Frieuzal found 9.8 per cent. of blindness due to injuries; Trousseau, 16.32 per cent.; Magnus, 10.76 per cent.; Fuchs, 7.9 per cent. In 1900 of 75,568,686 inhabitants in this country there were 64,763 blind; 35,645 totally blind; 4,462 totally, 2,226 partially blind (a total of 10.33 per cent.) from injuries, accidents and operations. This was a decrease of 586 from the 1890 figures although the population had increased 12,944,436. E. L. Elliott believes there are 20,000 more or less serious injuries to the eyes of workmen through accidents, chiefly preventable, in this country each year. F. W. Miller (The Journal A. M. A., Aug. 5, 1905) states that ocular traumatisms are becoming more frequent with the increase of mechanical appliances, rapid transit, etc., and the more general use of chemicals and gases. On the other hand, according to census figures the frequency of blindness due to accidents is becoming less, due partially to the more general use of safeguards against accidents, especially industrial accidents, and partly to the better management and care which these cases now receive. Würdemann states that a loss of 20 per cent. of visual acuity in the higher trades and 50 per cent. in the lower materially lessens the earning ability, the ratio being decreased in arithmetic proportion until the individual is incapable of earning anything, becoming a charge on the family or community. The young blind may be taught to substitute partially the other senses for eyesight, but the adult suddenly becoming blind finds this difficult and often impossible. Arbitrary legal rules, accident insurance companies, the United States Pension Office and the indemnity laws of England, France, Germany and other countries consider the total loss of eyesight equal to the loss of life. The loss from total blindness of one eye or of partial blindness of one or both depends on many factors, but scientific examination and calculation have determined the effect of a certain loss of vision on earning ability. Insurance will demand greater care to eliminate the unscrupulous who simulate eye disease or exaggerate it, and therefore entrance and periodic examination of the visual acuity of workmen will be made necessary. Persons with only one good eye would be damaged more in proportion where it was lost than where a good eye remained, especially if the vision of the damaged eye had been subnormal before the accident. Lans ("Traumatic Affections of the Eye," *Tydschr. V. Gen.*, December, 1908) collected statistics of the earning capacity of fifty consecutive patients with monocular blindness from accident. Of this number two earned constantly less through change of work, two temporarily less, thirty-eight as much as before accident and eight, more. The public therefore should be greatly interested in the prevention of blindness from industrial accidents, not only from a sentimental or humanitarian standpoint but from an economic one as well. Partial or total reduction of vision lessens efficiency and therefore makes many victims a charge on society. Great sums of money are expended in teaching and caring for the victims of industrial accidents. The laity should be educated as to the seriousness of even slight countries of Europe and South America were shown in comparison with those of the United States. In the same year, what was probably the first complete list of the medical colleges of the world, was also published. It is doubtless this comparative study of the educational standards which has received special mention abroad and which caused the Council on Medical Education to be listed by Dr. P. J. Eijkman,[1] of The Hague, among the organizations of the world which are exerting an international influence on the standards of medical education. Meanwhile, facts regarding educational standards and permitting of graphic comparison have been received from twenty-five of the countries of Europe, Asia and South America. These standards are shown in Chart 1, in comparison with the standards enforced in the United States.

PROGRESS IN MEDICAL EDUCATION

As to the improvements which have been made in medical education, it should be said that more has been accomplished in the last six or seven years than in the previous sixty years. It may not be fair to say that all has been brought about by the work of the Council on Medical Education, nevertheless, it is clear that action taken by a national body such as the American Medical Association, representing as it does the organized medical profession of the United States, was sure to have an extensive influence. So the positive campaign carried on by your permanent committee on medical education has given impetus to a nation-wide movement for better educational standards, which, by uniting and reenforcing the activities of other agencies, has resulted in the progress which we are permitted to report to-day.

CHART 2.—MEDICAL COLLEGES IN THE UNITED STATES

Showing the totals in the years given of (A) colleges requiring for admission one or two years of college work, and (B) all colleges in the United States.



REFERENCES

1. The Council on Medical Education was created in 1904.
2. The first personal inspection of all medical colleges was made by representatives of the Council in 1905-6 and 1906-7.
3. The first classification of medical colleges by the Council was presented to the House of Delegates of the A. M. A. in 1907.
4. Second tour of inspection of all medical colleges by the Council was completed, 1909-10.
5. Second classification of medical colleges reported to the House of Delegates and published, 1910.

IMPROVEMENTS IN RECENT YEARS

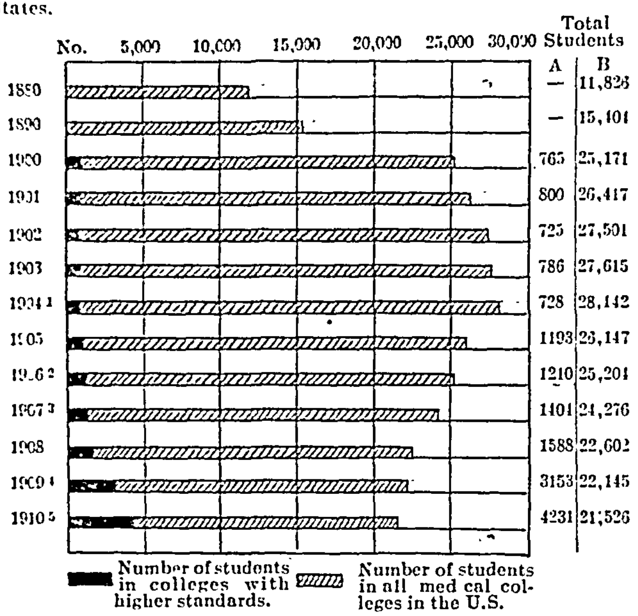
Since 1904 changes for the better in medical education have been particularly rapid. Up to that year the number of medical colleges, most of which were conducted for profit, continued to increase regardless of the growing demand for better medical schools rather than a larger number. In 1904 the maximum number of 166 medical colleges had been reached, constituting, to use a phrase made possible by the Council's researches, practically one-half of the world's supply.

FEWER BUT BETTER COLLEGES

Since 1904, however, there has been at first a gradual and then a positive decrease in the number of colleges until now the number has been reduced to 129. It is significant that the positive decline has been since 1907, when the classification of medical colleges, based on the Council's first actual inspection of all the medical colleges of the United States, was read at the third annual conference. Of the forty-four colleges closed since 1907, twenty colleges were closed outright and twenty-four merged with others. Of the twenty which became extinct, sixteen had been rated in Class C. This decrease, therefore, has been due to the closing of the weak and inferior colleges or by the merging of two or more medical colleges, forming in practically every instance one stronger and better equipped college. Instead of being a serious matter, therefore, this decrease in the number of medical colleges has been of positive benefit, resulting as it has in the forma-

CHART 3.—MEDICAL STUDENTS IN THE UNITED STATES

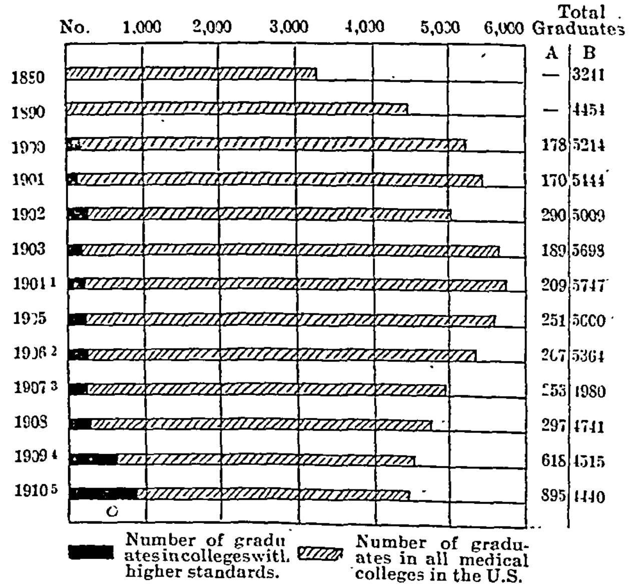
Showing the totals in the years given in (A) colleges having higher entrance requirements, and in (B) all colleges in the United States.



1-5. See reference notes beneath Chart 2.

CHART 4.—MEDICAL GRADUATES IN THE UNITED STATES

Showing the totals in the years given in (A) colleges having higher entrance requirements, and in (B) all colleges in the United States



1-5. See reference notes beneath Chart 2.

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[1] See The Journal A. M. A., Aug. 6, 1910, p. 508.

tion of better colleges and in the elevation of educational standards. Since 1904 there has likewise been a decrease in the number of medical students and medical graduates.

COLLEGES CLOSED SINCE 1907

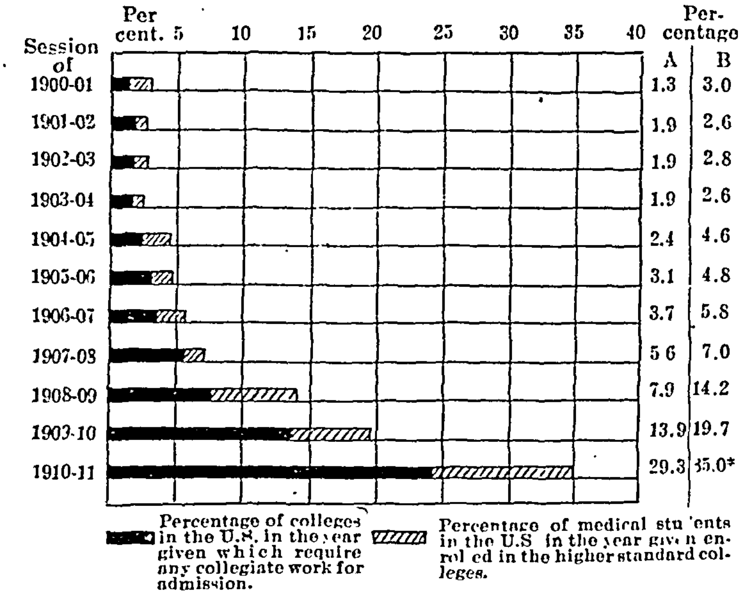
How Closed	Class A	Class B	Class C	Totals
By merger	11	10	3	24
Extinct	..	4	16	20
Totals	11	14	19	44

BETTER STANDARDS OF ADMISSION

Not only has there been an improvement in the standards of medical education since 1904 through the elimination of weaker colleges, but, on the other hand, there has been a decided advance in the standards of admission. Until 1904 only three, or 1.9 per cent., of all medical colleges, were requiring for admission more than a high-school education, but since 1904 the number has increased until now forty-two, or 32.6 per cent. (nearly one-third), of all colleges are requiring for admission one or more years of collegiate work in addition to the high-school course, and medical teaching as a whole has been placed more largely on a university basis. Another fact, however, brought out in Chart 5, is that, although only about 14 per cent. of the colleges held to higher admission requirements during the session of 1909-10, those colleges enrolled about 20 per cent. of all students.

CHART 5.—HIGHER STANDARD MEDICAL COLLEGES IN THE STATES AND STUDENTS ENROLLED

This chart shows the increase by percentages in the number of higher standard colleges and also the increase in the enrollment of students in such colleges. The figures show in the year given (A) *the percentage of all colleges holding higher entrance standards,* and (B) the percentage of all students enrolled in these colleges.



* Estimate.

COLLEGES AND STATES HAVING HIGHER REQUIREMENTS

The twenty-eight medical schools which are now requiring as a minimum for entrance two or more years of work in a college of liberal arts in addition to a four year high-school education are as follows:

College	Began
Johns Hopkins University, Medical Department	1893
Harvard Medical School	1900
Western Reserve University, Medical Department	1901
University of Chicago, Rush Medical College	1904
University of California, Medical Department	1905
University of Minnesota, *College of Medicine and Surgery*	1907
University of North Dakota, College of Medicine	1907
University of Wisconsin, College of Medicine	1907
Cornell University Medical College	1908
Wake Forest College, School of Medicine	1908
Leland Stanford Junior University, Department of Medicine	1909
Yale Medical School	1909
University of Kansas, School of Medicine	1909
University of Michigan, College of Medicine	1909
University of Nebraska, College of Medicine	1909
University of South Dakota, College of Medicine	1910
University of Colorado, School of Medicine	1910
Indiana University School of Medicine*	1910
State University of Iowa, College of Medicine*	1910
State University of Iowa, College of Homeopathic Medicine	1910
Drake University College of Medicine	1910
University of Missouri, Department of Medicine†	1910
Dartmouth Medical School	
Columbia University College of Physicians and Surgeons	1910
Syracuse University College of Medicine*	1910
University of Pennsylvania, Medical Department*	1910
University of Utah, Medical Department*	1910
Northwestern University Medical School‡	1911

* One year required for the session of 1909-10.
† One year has been required since 1906.
‡ One year required since the session of 1908-09.

The thirteen following colleges require in addition to a four year high-school course one year of work in a college of liberal arts.

College	In Force
Howard University School of Medicine	1910
Kansas Medical College	1910
Tulane University, Medical Department	1910
St. Louis University School of Medicine	1910
University Medical College, Kansas City	1910
Washington University, Medical Department*	1910
University of North Carolina School of Medicine	1910
Ohio-Miami Medical College, University of Cincinnati	1910
University of Oregon, Medical Department	1910
University of Texas, Medical Department	1910
University of Virginia, Department of Medicine	1910
Fordham University School of Medicine	1911
University of Pittsburg, Medical Department	1911

* Will require two years in 1912 and thereafter.

Four other colleges have stated in printed announcements *that one year of collegiate* work in addition to a four year high-school education will be required for admission beginning in 1912. These are:

Boston University School of Medicine.
Medical School of Maine.
University of Michigan, Homeopathic College.
University of Vermont, College of Medicine.

From the fact that forty-five medical colleges have adopted higher *entrance requirements it is interesting to note that* nine state examining boards have also adopted preliminary requirements in advance of a four year high-school education. *These are as follows:*

State Examining Board of	No. of Years Required.	Affects Students Matriculating.	Affects All Applicants.
North Dakota	2	1907-08	1911
South Dakota	1	1907-08	1911
Iowa	2	1907-08	1911
Minnesota	2	1908-09	1912
Colorado	1	1908-09	1912
Colorado	2	1910-11	1914
Connecticut	1	1910-11	1914
Kansas	1	1910-11	1914
Indiana	1	1909-10	1913
Indiana	2	1910-11	1914
Utah	1	1910-11	1914

There are several other states which are contemplating similar increases in their requirements in the near future.

OTHER IMPROVEMENTS

In the last seven years, however, other radical improvements in medical education have taken place. College terms have been lengthened, new methods of teaching have been adopted, more salaried teachers have been employed, more endowments secured, new buildings erected, better laboratories and laboratory equipment installed and better hospital connections and clinical facilities secured. The last year particularly has witnessed many remarkable changes for the better in medical education. Several of our larger medical schools have received large donations, have been thoroughly reorganized, have secured or built teaching hospitals and have adopted higher standards of admission. And reports of other changes of similar importance continue to come in.

BETTER STANDARDS OF LICENSURE

The progress for higher standards, however, has not all been confined to the medical colleges. The requirements of state medical licensing boards have likewise been considerably advanced. The statement regarding these changes is based on a careful study of the practice acts and board rulings and on correspondence received from the officers of the various boards, giving their interpretation of the laws they have been appointed to enforce.

1. In 1904 apparently only twenty states had any provision in their medical practice acts for preliminary education, now thirty-six have that provision. Then only ten states required a standard four-year high-school education as their minimum standard, and none required any college work. Now thirty-one states require the standard high-school course and nine of these require one or two years of collegiate work in addition. Then only four states conducted preliminary examinations and

inspected credentials previous to or at the time of matriculation. Now nine states perform those duties.

2. In 1904, thirty-six states required that all candidates for license be graduates of legally chartered medical colleges; now forty-four states have the requirement.

3. In 1904, forty-five states required an examination of every applicant; now forty-eight require an examination.

4. In 1904, the boards of only fourteen states had authority to refuse recognition to inferior or disreputable medical colleges. Now twenty-eight boards have full authority to refuse such recognition and fourteen others have a limited or divided authority.

5. In 1904, there were thirty-six states each having a single board of medical examiners. Since that year, four more states have secured single boards, making forty at the present time.

6. Reciprocal relations had been established by twenty-seven states in 1904 with two or more other states; now thirty-four states have such relations, and in four other states, Alabama, Oklahoma, South Dakota and Pennsylvania, the boards have the authority to establish such relations if they care to do so.

7. Since 1904 six state boards have initiated practical tests to a certain extent at their examinations, thus making it possible to differentiate between applicants who have gone through a mere cramming process and those who have had a thorough medical training in laboratory and clinic.

ADVANCES IN STATE LICENSE REQUIREMENTS IN SEVEN YEARS

Requirement or Provision	States Having Provision for			States Still Having No Provision for
	In April 1904	In April 1911	Increase	
Any requirement of preliminary education	20	36	16	13
A standard four-year high school education	10	31	21	18
One or two years of college work as a minimum	0	9	9	40
Inspection of all credentials at time of matriculation and control of preliminary examinations	4	9	5	29[1]
That all applicants be graduates of a medical college	36	44	8	5
That all applicants undergo an examination for license	45	48	3	1
Requirement of practical tests in the license examinations	1	6	5	43
Full authority by board to refuse recognition to low-grade colleges	14	28	14	21
Reciprocal relations with other states	27	38	11	11
Single boards of medical examiners	36	40	4	9

[1] Eleven states have no medical colleges and therefore no need for this provision.

Relating both to colleges and to state boards, all the changes referred to above have been brought about with a free will and an enthusiasm which constitute the best guarantee that other improvements are to follow and that the shortcomings in our systems of medical education and licensure will be corrected. In order that future work to that end may be directed more effectively, a brief statement of the present conditions is desirable.

IMPROVEMENTS STILL NEEDED

In regard to preliminary education: There is an endless number of agencies having to do with the valuation of the entrance credentials of those who are to enter on the study or practice of medicine and nearly as great a variety of standards and methods are employed. While some of these agencies are conscientious and use examinations or other methods which actually insure that the applicant has the required education, others are not so strict and still others make a farce of the whole matter. In the last instance entrance requirements may have been adopted without any intention of having them enforced. There would be a decided improvement if the number of these agencies could be reduced, if work could be placed in the hands of experts and if all agencies would cooperate for the enforcement of fair standards. This would be of positive benefit not only to medical education but also to the other departments of education.

EDUCATIONAL SAFEGUARDS FAULTY

Under the methods and conditions which still exist, there is scarcely a person so ignorant that he cannot gain admission to a score or more of medical colleges in this country, and he can find some "examiner" who will grant him a "certificate" which is supposed to represent the "equivalent" of a four year high-school education. So long as an applicant can pay the required fee, there are still colleges which are only too glad to accept him, regardless of his lack of preliminary education. With some few exceptions, such colleges are also deficient in regard to expert teachers, laboratory equipment and clinical facilities. In fact, if they could, and did offer a modern medical course, the majority of their students would be incapable of profiting by it.

BETTER LEGAL SAFEGUARDS NEEDED

Of course the low-standard colleges referred to can exist only in states where the laws regulating the practice of medicine are inadequate or are not enforced. The statement is true that a rigid enforcement of the requirement that every student, before entering on the study of medicine, must have secured an education at least such as is given in a standard four year high-school, would force the majority of these inferior colleges to close their doors. The state board should have the right to refuse recognition to any medical college which is deficient either in preliminary requirements or in its laboratory and clinical facilities. Even without such a provision, however, the state board has another effective means of defending the people of its state against ill-trained doctors, and that is through the examination. At present the examination as conducted in the majority of states can be easily passed by the student whose preparation has been based largely on questions asked by state boards, who may have undergone merely a cramming in a quiz class or compend. The most effective remedy is the adoption of practical tests in the examinations by which the student's skill in laboratory methods and in the examination of patients may be proved.

PRACTICAL EXAMINATIONS IN GERMANY

There is much we can learn from the methods employed in the countries of Europe which have had to cope with the same problems with which our states have to deal. In Germany[2] the examination for license comprises written and practical tests in anatomy, physiology, general pathology, pathologic anatomy, surgery, medicine, obstetrics, gynecology, ophthalmology and hygiene. There is also a clinical part of the examination in which the candidate, on one day has to examine a medical patient in the presence of the examiner, and on the next day a surgical patient, giving for each the etiology, diagnosis, prognosis and treatment, immediately after which he draws up a report which is countersigned by the examiner. On the same day in which he examines each case, the student prepares a critical report at home, which is presented to the examiner next morning, with the date and the candidate's signature affixed. For the next week he has to visit both patients once or twice daily. He must keep an accurate account of the progress and treatment of the disease, and in case the patient dies within the seven days he must give a written opinion of the cause of death. Clinical examinations somewhat similar are required also in ophthalmology, obstetrics, pediatrics and mental diseases. Passing in these varied tests qualifies the candidate to practice medicine; but after two rejections no candidate can enter for another examination except in very special cases.

PRACTICAL EXAMINATIONS IN GREAT BRITAIN

An excellent system of practical examinations has been developed in Great Britain by the conjoint board in London, according to Mr. Abraham Flexner, who has just made a prolonged investigation of medical education abroad. It is stated that as many as 150 to 200 candidates appear at each examination. Everything needed for the examination is brought to the examination hall. The museums of London furnish the needed surgical and pathologic specimens; the hospitals and out-patient departments furnish patients. The examinations are conducted entirely by teachers and some of the ablest men in England regard it as a public duty to serve in that capacity. In the examination witnessed by Mr. Flexner, every student was examined by two teachers. The examination was both written and practical, and the written papers were marked independently by two teachers. In a large number of papers thus marked no great variation in the markings by the two examiners were found. The examinations as now conducted by the conjoint board in England have been developed by Mr. Frederick G. Hallet, the secretary of the board. Meanwhile, it is hoped that the Council on Medical Education can induce Mr. Hallet to attend the conference on medical education to be held next February, and explain more in detail how the system works, to the many delegates of state licensing boards who will be in attendance at that conference.

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[2] Brit. Med. Jour., June 3, 1905, p. 1197.

GIVE THE STATE BOARDS A FAIR CHANCE

The solution of many of the problems of medical education rests in the hands of the state licensing boards, and doubtless will be solved by them if they are given a fair chance. In many of the states, however, the medical boards are seriously handicapped. As a rule, the board is too closely connected with politics and in some states the members are appointed for political reasons and, therefore, are liable to be changed with every turn of politics. It is often difficult, therefore, to secure the best men for membership on the boards. Again, the boards are often hampered by lack of funds to do what could and should be done. Too often they must depend on the fees received from applicants, in which case a strict enforcement of fair standards tends to reduce the number of applicants and correspondingly the financial resources of the board. Furthermore, in several states the board is not given full authority in the premises. Either they are handicapped by a very poor practice act, or their authority is limited or divided by the establishment of special boards for the various medical sects, which makes impossible a really satisfactory regulation of the practice of medicine. As has been frequently pointed out, there are in the fifty states and territories of the Union some sixty-five different licensing boards, or eighty-three if we count also the seventeen boards which have been granted to osteopaths. At most there should be but one board in each state, and that board should be composed of men appointed for their particular skill in the examining and licensing of physicians and not for political reasons. Furthermore, the board should be a permanent body so that after the members have become experienced the public may have the benefit of that experience. There are some boards which change secretaries every few months or year, when the records and the work go into the hands of someone who may be entirely without experience in the work involved. If possible, the board should have a permanent secretary, who will hold his place during good behavior, and who is not subject to removal with every change of politics.

ONE PORTAL TO THE PRACTICE OF MEDICINE

Not only should there be but one board in each state manned by able examiners, but there should be a single educational standard fixed with which every applicant for a license to treat the sick, by whatever means or method, should comply. Let there be one portal of entry to the practice of medicine. The statement is a repetition but it will bear repeating, that all who are to treat human ailments, no matter whether they are regulars, homeopaths, osteopaths, or the followers of any other school, are alike in that *they must make a diagnosis;* they must be capable of differentiating between the various diseases in order to intelligently treat the cases which may come to them and, therefore, they should all be required to have a training in the fundamental medical branches.

Even with a single board and a single educational requirement in each state, there would still be considerable confusion in methods and in standards as compared with the regulation of the practice of medicine in other countries where a single authority is in control and where ample funds are provided with which to do things. Much of the difficulty in this respect, however, can and is being offset through cooperation between boards. But much remains to be done to extend this cooperation and to secure more uniformly high standards and more uniformly thorough methods of examination.

But as already stated, progress is being made all along the line and will continue to be made. In many of our states, however, it is necessary to secure the enactment of better medical practice acts, and that is usually a slow process. Nevertheless, the needs are pretty generally known, the facts are being given publicity, and it will not be long before the public will demand the adoption of satisfactory laws and a better regulation of the practice of medicine. Ignorance, pretense and quackery should no longer be tolerated on the part of those who are to enter on the practice of medicine.

THE AMERICAN STANDARD OF MEDICAL EDUCATION

It is now clear to those who are familiar with the situation that a satisfactory medical training in accordance with the known facts of modern medicine requires: (a) A training in a good secondary school; (b) a premedical course of one or two years devoted to the sciences of physics, chemistry and biology, and to modern languages; (c) a four year course in a modern medical school which has ample laboratory, museum, library, dispensary and hospital facilities, and which has a sufficient number of expert, full time teachers, and (d) a year spent as an intern in a good hospital. We believe that is the minimum training by which it is possible to prepare a student for independent practice. This means a training covering six years after the completion of the high-school course. While it is evident that this requirement cannot immediately be put into effect throughout the whole country, nevertheless, it should be emphasized that anything short of this as an ultimate requirement is clearly insufficient. A comparative study of medical education abroad shows that this is the only large and important country in which the above requirement as a minimum is not insisted on. We believe, therefore, that the American Medical Association should urge each state board and each medical school to adopt these requirements just as soon as their environments will permit. Furthermore, we believe the time is now here, when state boards should adopt the requirement that every applicant must have spent a fifth year as an intern in some good hospital.

RECAPITULATION

The following will briefly summarize the statements presented in the report:

Work of the Council

(a) The Council has now spent seven years in the study of conditions underlying medical education and the licensing of physicians.

(b) An abundance of information relating to all phases of education but more particularly to medical education has been collected. Much of the information collected cannot be obtained anywhere else.

(c) The Council on Medical Education has been listed by Dr. P. J. Eijkman of The Hague, among the organizations of the world which are exerting an international influence on educational standards.

(d) The Work of the Council and of the American Medical Association have been effective in bringing about marked and rapid improvement in medical education during the last seven years.

Advances in Seven Years

(e) The number of medical colleges in the United States has been reduced from 166 in 1904 to 129 in 1911. This reduction has been due to the closing of poor schools or to the merger of two or more colleges, forming in each instance one invariably stronger and better medical school.

(f) Medical schools requiring one or more years of collegiate work for admission have increased from four in 1904 to forty-two in 1911.

(g) Although the number of medical students in the United States has been reduced from 28,142 in 1904 to 21,526 in 1910, on the other hand the number of students enrolled in high-standard medical colleges has increased from 728 in 1904 to 4,230 in 1910.

(h) In 1904 only 2.4 per cent. of all medical colleges were requiring one or more years of college work for admission, now 32.6 per cent. (nearly one-third) of all colleges are enforcing that requirement.

(i) Since 1904, preliminary educational requirements have been adopted in sixteen more states; a four year high-school education has been made the standard in twenty-one more states, and nine states have adopted as their minimum a requirement of one or two years of collegiate work.

(j) Six state licensing boards are now to a limited extent using practical tests in their state license examinations.

(k) Since 1904, reciprocal relations have been established by eleven more states, making a total of thirty-four which now have such relations with other states.

Advances Still Needed

(l) There are apparently too many agencies passing on the credentials of matriculants to medical colleges, and also an endless variety of methods are employed. The number of these agencies should be reduced to the smallest possible number and the methods should be made more effective.

(m) At the present time any student, however unqualified, can find some "examiner" who will grant him a "certificate" which is supposed to represent the "equivalent" of a four year high-school education.

(n) A more strict enforcement of preliminary standards by state boards would have a beneficial effect by inducing the medical colleges to live up to their published standards of admission.

(o) More thorough and practical examinations should be adopted by state licensing boards so as to differentiate between the candidate who has been trained by quiz-class methods alone from the candidate who has received a thorough training in laboratory and clinic.

(p) An effort should be made by the medical profession of each state to secure the appointment on state medical licensing boards of men who are especially qualified for the duties devolving on them.

(q) There should be in every state only one portal to the practice of medicine. All who are to treat human ailments, regardless of their "methods of treatment," are alike in that *they must make a diagnosis.* Unless they know what the patient's trouble is, any treatment is mere guesswork, unscientific, and as liable to do harm as good. To be able to make the proper diagnosis requires a thorough training in the fundamental medical sciences, and this training should be required of all alike.

(r) To master thoroughly the modern medical course requires: (1) a training in a good secondary school; (2) a premedical course of one or two years devoted to the sciences of physics, chemistry, biology and a modern language; (3) a four-year course in a modern medical school having well-equipped laboratories and an ample force of expert teachers, and (4) a year spent as an intern in a good hospital.

(s) Finally, it is of great importance that closer relations be brought about between hospitals and medical schools, and that those in charge of hospitals should recognize the educational function of the hospital. Not only is a hospital made more influential by a close association in a teaching capacity with some university medical school, but also its patients are sure to receive better attention, and furthermore, the hospital will be doing a service to the community by helping to develop capable, well-trained physicians.

DEFINITE RECOMMENDATIONS

In order to secure the best results, it is recommended that during the next year all forces working for the betterment of medical education make special efforts along the following lines:

In General

1. Men best qualified for the work to be urged for appointment on state licensing board.
2. Educate the public and legislators regarding the necessity of a single portal of entry to the practice of medicine for the right to treat human ailments by whatever methods.
3. Emphasize the need of private endowment or state aid for medical education.

For Medical Colleges

4. The adoptions, at the earliest possible time, of one or two years of work devoted to physics, chemistry, biology and modern languages in addition to the four year high-school education.
5. The securing of more expert full-time instructors particularly of the laboratory branches.
6. The development of better library and museum facilities.
7. The development of more extended and careful study by senior students of patients in dispensaries and hospitals.
8. The adoption of the requirement at the earliest possible date of a fifth year to be spent by the student as an intern in a good hospital.

For State Licensing Boards

9. Adoption of the requirement that each applicant should possess the higher preliminary qualification as outlined in paragraph 4 above.
10. The provision for a more careful valuation of the preliminary credentials presented by all applicants.
11. The adoption of thorough and practical tests at state license examinations. These are now employed by England, Germany, Hungary, Norway and other leading countries of Europe.
12. The extension of reciprocal relations with other states, but this provision should be safeguarded by a careful scrutiny of the applicant's credentials and by a more strict use of the board's discretionary power.

Respectfully submitted,
ARTHUR DEAN BEVAN, Chairman.
N. P. COLWELL, Secretary.

Ask Congress to Amend Food and Drugs Act

Dr. F. G. Wheatley, Massachusetts, presented resolutions asking Congress to amend the Food and Drugs Act so that false statements of any kind shall be unlawful. This was referred to the Reference Committee on Legislation and Political Action.

Proposal to Reconstruct Judicial Council

Dr. John B. Roberts, Pennsylvania, presented an amendment to the By-Laws to modify the Judicial Council. This was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

On motion, the House of Delegates adjourned until 2 p. m.

Second Meeting—Monday Afternoon, June 26

The House of Delegates convened at 2 p. m., and was called to order by the President. The Secretary called the roll and a quorum was present.

The minutes of the morning meeting were read and approved.

Report of the Committee on Nomenclature and Classification of Diseases

The report of the Committee on Nomenclature and Classification of Disease was referred, without reading,[*] to the Reference Committee on Hygiene and Public Health. It will appear in THE JOURNAL next week.

Report of the Committee on Scientific Exhibit

The report of the Committee on Scientific Exhibit was referred, without reading, to the Board of Trustees. It was as follows:

To the Members of the House of Delegates of the American Medical Association:

The migration of the Association in its annual sessions offers only an apparent and not a real or serious embarrassment to the success of the Scientific Exhibit. According to the region or peculiar facilities offered at a given meeting place, instructive variety may be given to the character of the exhibit. Thus at New Orleans tropical medicine was given prominence. In Boston the facilities of the Harvard laboratories made possible microscopic and gross demonstrations of extraordinary interest. Last year under the inspiring direction of Dr. Frank J. Lutz, commendable impetus was given to the historical phases of medicine. The geographic position of the present meeting place offers opportunity to emphasize the pathologic and sanitary phases of the plague.

A common fallacy in the minds of those who might exhibit is the impression that only large collections are desired. The small research exhibit to which the gold medal was awarded last year, was offered at a late hour with a modest apology and request that it might be given a corner somewhere. Society and institution collections must necessarily occupy the most prominent place in the exhibit; but small exhibits are equally desirable and sometimes more instructive.

Dr. W. A. Evans, chairman of the Section on Preventive Medicine and Public Health, is to be commended for attempting this year what we have at different times sought to persuade chairmen of sections to undertake, viz.: to coordinate the work of the section with that of the exhibit. The one should supplement the other.

Remoteness of the meeting place has not hampered the success of the Scientific Exhibit to the extent that might be expected. In this as in other matters pertaining to the session, western men have been alert to their obligations. Under the direction of Dr. Stanley P. Black of Los Angeles and Dr. William Ophuls of San Francisco, very excellent contributions have been secured from the coast region. From east of the Rocky Mountains have come no less than nine exhibits.

These facts bear eloquent testimony to the loyalty to scientific ideals of members of the Association throughout the country. It is not possible at this time to refer in detail to the exhibits; nor to give each exhibitor his due meed of praise for the service rendered. We can only say, "Well done, good and faithful." Following the custom of previous years, the committee, in meager recognition of the service of contributors, offers certificates, medals and awards as detailed below.

1. Certificates of Honor, given to only a few of the very superior exhibits.
2. Gold Medal for the best research exhibit dealing with any problem in the fundamental medical sciences.

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[*] These reports were put in type before the session and were printed in the "House of Delegates Handbook." A copy of this is in the hands of each delegate, thus greatly facilitating the course of business. The Handbook also contained the names of all the officers, members of committees, and the Constitution and By-Laws.

3. Gold Medal for the best exhibit on the basis of general excellence, from the standpoint of care in preparation, completeness and instructiveness.

It is recommended that a committee on awards be appointed at once by the president, to pass on the foregoing.

4. Cash Award of $200 for the best series of not less than six original cartoons, dealing with any one or all of the following health problems:

(a) Insects in the Causation of Disease.
(b) Beneficent effects of Animal Experimentation.
(c) Pure Food and Adulterated or Contaminated Foodstuffs.

A considerable number of well-known artists have contested for this award. The exhibit is unique and most instructive. It should be seen by every member of the Association. Out of the two hundred or more cartoons submitted, the Council on Health and Public Instruction should be able to secure quite a number possessing great educational value in promulgating public health propaganda. It is suggested that a committee of three on cartoon contest be appointed at once by the President.

Through the agency of the Scientific Exhibit your committee has always striven to show the newer things indicative of progress in the fundamental branches of medical science. In the work of the sections, the art of medicine has entered more largely. Taken together, they give completeness to the work of the Association.

But we would fall short of duty in this organization did we rest content to promote scientific progress along the narrow lines of the nature, cause and cure of disease. We must harken to the dominant note in our national public life—conservation! It is indeed a fine thing to save the forests, the mines and the water power of the country from wanton destruction; but it is a still greater accomplishment to conserve the health of the people. Just now when the world is awakening to the truth; when statesmen and even the president discuss and commend in enthusiastic terms the public health movement, it is well that the American Medical Association should lay its hand to the plow in this great sanitary field. The Council on Health and Public Instruction has before it problems more difficult and far-reaching than any yet undertaken by the Association. Toward their solution the Scientific Exhibit stands eager to render every possible aid.

It may not be amiss in this connection to recall that the Association was the pioneer in the introduction of public health exhibits, now so generally used in the education of the public. More recently through the agency of the Scientific Exhibit, models were developed for cheap, compact and durable public health exhibits, designed for permanent installation in schools, court houses, village railway stations and like places, where the lessons of hygiene and sanitary science may be taught day by day. Attention has already been called to the health cartoons presented at this meeting.

Many other attractive fields lie untouched. Time is ripe for the infusion of health problems into novels, plays and playlets. Would it be too much for your committee to take the initiative in such a movement? Should this be done, a play dealing with some health problem will be presented a year hence as part of the Scientific Exhibit program.

While your committee has dreamed dreams, it has nevertheless brought some of them to realization. And whether dreaming or doing, we have been spurred on by the hope of accomplishment in a good cause and by your kind sympathy and support, for which accept our thanks.

Respectfully submitted,
FRANK B. WYNN, Director.

Committees on Awards for Scientific Exhibit

In accordance with this report from the Committee on Scientific Exhibit, Dr. Edward Jackson, Colorado, moved that the President be authorized to appoint a Committee on Awards. This was seconded and carried and the President appointed Drs. H. Gideon Wells, Illinois, Chairman; W. E. Musgrave, Philippines, and M. P. Ravenel, Wisconsin.

Dr. C. R. Woodson, Missouri, moved that the Council on Health and Public Instruction be requested to serve as a Committee on Awards for Cartoons. This carried.

The Secretary read a report of progress from the Committee on Anesthesia which was referred to the Reference Committee on Miscellaneous Business.

Report of the Committee on Memorial to Medical Officers Who Died in the Civil War

The report of the Committee on Memorial to Medical Officers who died in the Civil War was received and referred to the Reference Committee on Miscellaneous Business. The report will be published in THE JOURNAL next week.

Report of the Committee on Relief Fund and Physicians' Sanatorium

The report of the Committee on Relief Fund and Physicians' Sanatorium was read by the Chairman, Dr. Edward Jackson, Colorado, and was referred to the Reference Committee on Miscellaneous Business. It will appear in THE JOURNAL next week.

Report of Committee on National Health Organization

The First Vice-President, Dr. E. E. Montgomery, Pennsylvania, then took the chair and called for the report of the Committee on National Health Organization, which was presented by the Chairman, Dr. William H. Welch. The report was referred to the Reference Committee on Legislation and Political Action. The report was as follows:

To the Members of the House of Delegates of the American Medical Association:

At the St. Louis meeting of the Association, 1910, the following resolution was adopted:

> *Resolved*, That the president be and is hereby authorized to appoint a committee of seven members, which shall be charged with the duty of framing a bill for a national department of public health, to be presented to the next session of Congress, in December, and that this committee shall consider and determine all matters and policies relating to national health legislation, and may invite the cooperation and cooperate with other organizations having the same purpose in view, the president of the association, Dr. William H. Welch, to be named as a member of the committee.

Pursuant to the resolution set forth above, the President named the following seven members of the Association to constitute a Committee on National Health Organization: Dr. Hermann M. Biggs, New York; Dr. W. A. Evans, Chicago; Dr. S. G. Dixon, Harrisburg, Pa.; Dr. J. N. Hurty, Indianapolis; Dr. J. N. McCormack, Bowling Green, Ky.; Dr. H. P. Walcott, Cambridge, Mass., and Dr. William C. Woodward, Washington, D. C.

The President of the Association, *ex-officio* a member of the committee, called a meeting of the committee in New York, March 25, 1911, at which time the committee met and organized by the election of Dr. Welch as chairman, and Dr. Woodward as secretary. After a careful consideration of the situation, the skeleton of a bill for the establishment of a department of health was outlined, and the committee adjourned to meet April 1. At that time, the committee again met, and then further developed the outline agreed on at the preceding meeting. A copy of the outline thus developed was submitted to Senator Owen for such use as he might deem proper to make of it in framing a bill to establish a department of health.

At its meeting of April 1, your committee appointed a subcommittee to gather information from various countries with respect to the national health organizations of each, with a view to enabling the committee to perfect its work. This subcommittee is now at work, and the committee expects to gather through it and to digest for the use of the Association and of Congress, information that will be of value in improving the federal health organization of the United States.

WILLIAM H. WELCH, Chairman.

President Welch, in anticipation of the adjournment about to take place, expressed great gratification at the uniform courtesy and helpfulness that had been extended to him by the members of the House of Delegates.

On motion, the house adjourned until 2 p. m., Tuesday, June 27.

[THE PROCEEDINGS OF THE SIXTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION WILL BE CONTINUED IN THE JOURNAL, JULY 8, 1911.]

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RETROSPECTION AND INTROSPECTION: OUR OPPORTUNITIES AND OBLIGATIONS *

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In a retrospective and introspective gynecologic and obstetric review, at the end of the first decade of the twentieth century, one is first impressed with the astonishing progress which has been made in both of these branches in the generation just passed. One is next struck by the wide-spread interest in them everywhere and by the general adoption of the best modern methods in the treatment of gynecologic and obstetric patients, not only in the great medical centers and large cities, but in the small hospitals of many towns or villages and also in the homes of patients.

Happily it may now be said that the seed sown by Holmes and Semmelweis in an unprepared and refractory soil during the early forties of the nineteenth century, has, after more than sixty years of cultivation and forcing at the hands of a few obstetric nurserymen, grown to receive universal recognition. The practical adoption of a more or less rigid surgical asepsis is now approved and attempted in almost all obstetric work everywhere and as a consequence puerperal infection, or so-called puerperal fever, is vastly less frequent and virulent than of old. It is to be regretted that infections as a consequence of induced abortion are not diminished in proportion; but "being performed without antiseptic precautions, generally by illiterate persons of either sex, sometimes by the woman on herself or by the unskilled hand of a sympathizing neighbor, it slays its thousands" as heretofore.

It is very gratifying to find really good obstetric and gynecologic work now being done by one or more capable and conscientious men in almost every community in America. Gynecologic and obstetric wisdom and skill are no longer limited to a few professors in the great universities, but thanks to the unselfishness of the wise and skilful teachers of the last generation, their knowledge and experience have been freely passed along to the many of this generation.

In the treatment of all diseases everywhere in the human body, surgery must be regarded as a choice of evils, and in its adoption as a remedy for disease it must be demonstrated to be the lesser evil. Its consequences must be thought less burdensome and, on the whole, in an average case, less dangerous than the disease for the cure or relief of which it is prescribed.

Surgery usually contemplates mutilation as a remedy and, excepting in plastic and reconstructive surgery, the removal of some organ or member or tissue is inevitable. Ample justification for such mutilation must first be had. Furthermore, it should be regarded as reasonably certain that the result will be more than a mere anatomical elimination of a diseased organ; that is, that the patient will be comforted and benefited as a result of the operation and not be left as miserable as before, or even made worse, notwithstanding the successful removal of a pathologic specimen.

The responsibility of the surgeon in recommending an operation extends even farther than this, for he must feel assured that the benefits to be derived from the operation justify the probable or known risks of the operation under the conditions which attend it at the hands of him who attempts it.

The discomfort and temporary disability of the patient as a result of the operation must also be considered. Last, but not least, the cost of the operation to the patient should be counted, for he is often burdened for months or years by such expense. In short, everything considered, the game must be worth the candle.

Operations on neurasthenic and nervous invalids, and for epilepsy and insanity, always demand the nicest surgical judgment and a wide knowledge of the pathology of nervous disorders, to save surgery from being discredited. It is, I believe, generally conceded at this time that nothing short of actual disease in the organ to be operated on, with grave incident symptoms or apparent risk to life, warrants surgery for such invalids. We know how effective psychic treatment may be for these patients. All of us have seen those for whom we have conscientiously prescribed surgery recover without it; and we remember them well for they and their friends take particular delight in reminding us of our human fallibility.

I am aware that there are many who will regard these views as idealistic, utopian, and quite impracticable in their application to one's daily work. My plea, however, is for a careful, well-considered, ripe surgical judgment which comprehends all of the essential details that may bear on the case, and I regard all of the factors cited as both relevant and important in their bearing on the patient's interests.

Nearly twenty years ago one of the ablest gynecologists of that day[1] closed his "Introductory" to a well-known text-book with this paragraph:

> In conclusion, the riper my experience the more firmly am I convinced that in the treatment of woman's diseases the possibility of a nerve origin, or of a nerve complication, should be the *fore*-thought and not the *hind*-thought of the

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* Chairman's Address before the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Goodell, William: Introduction to Keating Coe's Gynecology.

> physician. I therefore have arrived at a very short gynecologic creed: I believe that the physician who recognizes the complexity of woman's nervous organization and appreciates its tyranny will touch her well-being at more points, and with a keener perception of its wants, than the one who holds the opinion that woman is woman because she has a womb.

The teaching and example of this great and honest man (he was my teacher and master), indeed the force and influence of this single paragraph from his pen, have done much to wipe out and eliminate gynecologic surgery for the cure of vague nervous and neurasthenic symptoms, to the infinite credit of our profession and the enormous benefit of womankind.

For the attainment of the best results in any surgical work, but particularly in the delicate and difficult field of obstetric and gynecologic surgery, certain prerequisites are essential.

First, as has been said, a good working knowledge of abdominal and pelvic pathology is required and an ample experience and training in the interpretation of the objective and symptomatic signs of disease are necessary to a reasonably exact diagnosis; and diagnosis is the foundation on which all good treatment rests, whether it be medical or surgical.

The menace to modern obstetric, gynecologic and abdominal surgery is the horde of half-equipped and untrained individuals who have invaded the field without the wisdom or experience to appreciate their limitations, or the conscience to recognize the enormity of their sins of omission and commission.

That a service of reasonable duration as an assistant to an experienced surgeon, or the broadening influence of a few years of general practice should precede one's advent into abdominal, obstetric and gynecologic surgery as a specialty does not deter the ambitious and self-confident embryo surgeon. He emerges from the medical school, or from the hospital in which he may have served a few months as an intern, as a full-fledged surgeon with a self-reliance and assurance that is appalling to those who watch his course.

The existence of this evil has been pointed out repeatedly, but as yet little effort has been made to check it, though a reasonable restriction in the extension of hospital facilities to those only who can show sufficient training and experience in the work they attempt and a reasonable degree of personal integrity, would, in the main, correct it.

This is a duty which directors and trustees owe their hospitals, those who contribute to their support, and the qualified surgeons on the staff, to say nothing of their duty to the trusting but helpless patients whom they admit for maltreatment by the incompetents who are working under their protection.

This abuse of the privileges of the open hospital I have referred to elsewhere,[2] and I have also suggested a remedy that I believe would eliminate the worst features of the evil.

It was suggested that a board of hospital counselors be created in each city, by the appointment of one or more representatives from the staff of each hospital, said board to devise ways and means for the control of this and other common hospital abuses. It is little credit or honor for a reputable and conscientious surgeon to hold a place on the staff of a hospital in the administration of the affairs of which he has little or no voice and in which incompetent and unscrupulous practitioners are accorded the same facilities and privileges as he.

Those who are permitted to enjoy the facilities of our hospitals for serious major surgical work should, in every instance, be obliged to apply formally for such permission, and such applications should be accompanied by evidence of the fitness of the applicant for the work he aspires to undertake, and of his integrity and honesty in his relations with his patients and his fellow practitioners. These credentials should be examined and passed on by such a board as has been suggested, or, if for any reason this is impracticable, by a committee of the staff of each hospital so applied to.

That such privileges are freely granted by non-medical boards of directors or, too often, by a non-medical superintendent after insufficient inquiry into the qualifications and integrity of purpose of the applicant, we all know, and what the consequences are we know. Exhibitions of carelessness, recklessness, indifference, ignorance, and technical incapacity are in evidence from day to day, and, not infrequently, unmistakable evidences of definite criminal intent, as in the unjustified induction of abortion, are apparent under our very noses. It is no uncommon thing to find persons operating in our hospitals who are generally known and recognized in the community as commission-payers or abortionists; nevertheless, they are members in good standing in their respective district medical societies.

It is no exaggeration to state that at least one-half of the hospitals in the United States are church hospitals. Notwithstanding this, however, unwarranted primary or secondary operations for emptying the pregnant uterus are frequently performed within their walls. The names of the patron saints of the healing art are thus daily employed to cover the criminal practices of the abortionist and his commission-paying accomplice; and, as of old, women and wealth are the prostituting agencies.

No one could wish to deny the benefits of sanctuary in the hospital to a desperate and despairing woman whose life is threatened by an incomplete abortion, however induced, but such humanitarianism should not be made a cloak to cover the operations of those who make it a business to perform the first step of such operations in their offices or the homes of patients, and the second step in the hospital and under its protection.

Neither should the hospitals harbor, shelter or dignify those "surgeons" who are in collusion with abortionists and who knowingly do the second step of the operation for them in the hospital, too often on a commission basis.

This situation calls for rigid supervision and control on the part of the hospitals; a censorship which can be intelligently exercised only through the cooperation of a staff of medical men, and which must be brought about by a careful process of elimination and selection of those who are to be accorded hospital privileges.

Why does such a state of things exist and why can it not be controlled? It is painful to admit it, but candor compels us to state that such things are possible merely because of the same scramble for business on the part of the hospital that actuates the commission-paying surgeon. It is the curse of commercialism. It would be far better for humanity if such hospitals were closed forever and such physicians were driven from the organized profession than to allow this degeneracy to disgrace another decadent generation.

If corrupt practices and inadequate preparation for difficult and serious special work are permitted to exist by the organized medical profession and the hospital authorities, then their regulation must ultimately be brought about through the enactment of state laws which shall specify who may and who may not do major surgery, and under what conditions and on the proof of what scientific and moral qualifications such work may be undertaken. As a matter of fact, such a law was drawn and presented for passage in one of the state legislative bodies two years ago. It will certainly be better for the organized medical profession and the hospitals to regulate themselves properly than to compel the law to intervene and impose irksome restrictions which may work a hardship on many who are worthy and capable.

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[2] Address of the President of the Colorado State Medical Society, 1906.

In these remarks no particular community and no particular institution is referred to. It is a deplorable fact that with the exception of some of the cities on the Atlantic coast, and a few isolated examples elsewhere, such conditions are more or less prevalent throughout the United States, but they are particularly prevalent in the West.

It would be interesting to determine how far these demoralizing conditions in the medical profession are due to the commercial medical school as a nursery of medical graft and to what extent advanced requirements for admission to the study of medicine will eliminate criminal and unethical practices.

Basing an opinion on the general principles governing the relations of ignorance to immorality, one would expect higher and better education to produce an ethically and morally higher type of physician. Our Council on Medical Education and those in charge of the Carnegie Foundation may, in raising the standard for admission to medical colleges and of the colleges themselves, incidentally also raise the moral standard of the graduates.

The real responsibility for the continuation of these evils, however, must be placed where it belongs. It is primarily our own. So long as we condone the corrupt practices employed by the incompetent and unscrupulous, so long as we tolerate them in our societies and hospitals, and humiliate ourselves and our profession by meeting them in consultation and on the rostrum, just so long are we barred from complaint if they are allowed to practice in our hospitals, or if they find that political preferment on health boards, in municipal hospitals, and in other civic positions to which they could not aspire if they were without the pale of organized medicine.

Disagreeable as the picture and its contemplation may be, we can no longer turn our heads and look the other way. Our obligation and opportunity are before us.

There are no more important factors which make for good results in all surgical work than organization, coordination, and cooperation in hospital direction and administration. He who operates in a hospital in which he can secure for himself and his patients just such service as he may require has a definite advantage over his colleague who must accept the assistance at his operations of any untrained intern who may be assigned to him, and have his patient anesthetized by another of whose qualifications he knows little or nothing. There are many excellent surgeons in this land who, with the hospital facilities and organization of the Mayos, of Ochsner, of Deaver, or of Howard Kelly, could do equally good work and secure like results.

When in attendance at the recent Fifth International Congress of Obstetrics and Gynecology at St. Petersburg, Russia, I witnessed the remarkably dextrous and skilful work of Professor de Ott. I have rarely seen anywhere more beautifully precise and exact method in surgical technic than I witnessed there, and while I accord unqualified praise to Professor de Ott for his personal skill and dexterity, I was most impressed with Ott's skill as an organizer, and with the precision with which each assistant did her share of the work. All but one of them were women.

His first assistant has been working with him for nine years and some of the others for even a much longer period, and their machine-like "readiness to serve" was worth a trip to St. Petersburg to behold. These details make for results, and any surgeon who can command his own force of trained and educated assistants, to his own ends and methods, can decrease his mortality and facilitate both his work and the recovery of his patients.

I once operated in a small hospital where for me this was possible and I have never had such results nor such satisfaction in my work before or since, as in that little institution. One has, however, only so much energy and vitality to expend and if one is using it to operate and finance a hospital, one has too little left to give to his surgical work. To attempt to do both is to court physical bankruptcy. Operating a hospital and operating in one is certainly "a hard way to serve the Lord."

Intelligent, skilful, dependable cooperation is nowhere more important to the surgeon than at the head of the table. The surgeon should never have to think of or consider the administration of the anesthetic during an operation; and if it be properly administered and wisely chosen he need not think of it.

The ignorant, apprehensive, unskilled and untrained anesthetist is often more of a menace to the patient than the operation, and he is always a source of annoyance and anxiety to the operator. I have recently called attention elsewhere to the fearful abuse of so-called hypodermic stimulation during and after surgical operations. I am convinced that to this dangerous practice on the part of surgeons, anesthetists, interns and nurses, the loss of many valuable lives could be traced. I feel certain that it is rarely required, and that its habitual employment is mischievous and dangerous, and that one who commonly resorts to it thus confesses his incapacity.

The name "hypodermic stimulation" is a misnomer, as the drugs commonly employed are rarely true stimulants. Even if they were so for the time being, their ultimate or secondary effect is nevertheless reactionary and definitely harmful.

When there is a coordinate organization in the operating room and a really skilful anesthetist, who has been chosen by an experienced and skilful surgeon, hypodermic stimulation during and after operations is very rarely employed.

On June 5, 1877, William Goodell became professor of clinical gynecology in the University of Pennsylvania. The creation of this, the first chair of gynecology in our medical schools, and his selection to fill it, mark an epoch in the development of gynecologic history. Nearly coincident as it was with the discovery of the principle of antisepsis by Lord Lister and the practical application of it in our hospitals, this period may be fixed as the date of the birth of gynecology as a science; although the eminent work of McDowell, Sims, Emmet, Atlee, and many others antedated it.

Obstetric practice also was influenced by the adoption of the new antiseptic gospel and the whole literature of the subject had to be rewritten; hospitals for the lying-in to be remodeled and, though more slowly, the obstetric art of the family physician was reconstructed along the newer lines and it ultimately partook more nearly of the exact working formula and certain results of a science.

Thus, the new gynecologic science and the old obstetric art took on themselves about this time the responsibilities and obligations of the enlarged surgical field into which Lister's discovery had thrust them. Now the successful practice of obstetrics and gynecology demands a most complete understanding and practical application of correct surgical principles, as in no other field of surgical work is the danger from infection greater or nicety of technic more essential to success.

What the pioneers of that period did in developing and establishing the new obstetric and gynecologic sciences need not be related. The names of Goodell, Joseph Eastman, Spencer Wells, Lawson Tate, E. C. Dudley, Joseph Price, Howard Kelly, Polk, Pryor, Edebohls, and many others will be remembered as those of benefactors of humanity; for they not only established gynecologic and obstetric surgery on a scientific basis, but in abdominal surgery they blazed the way for the general surgeon.

I have long felt that the title given this section works an injustice to those who do, and to those who should, work in it. This section should be designated as the "Section on Obstetrics, Gynecology, and Abdominal Surgery," and so come into its own. This title indicates the scope of the work of the Section and of those who labor in it. It covers a field which has been developed by the efforts of our colleagues and coworkers during the past generation, a field which we still occupy and are still developing and the prestige of the growth and development of which we are entitled to participate in and enjoy.

The greater dignity and slightly broader scope which this title implies would increase the interest in our section work and bring back to us some of those who have been lured into other pastures. The inclusion of the reference to abdominal surgery merely concedes a belated and too long-deferred right to a title and a field of work which this section should at least share because of original discovery and development; long cultivation and present possession; and in contesting a title no better claim than this can possibly be established.

That the capable and experienced gynecologic or obstetric surgeon must be prepared to properly perform any intra-abdominal operation from an intestinal resection, gastrostomy, or gall-bladder operation to a hysterectomy, so long as absolutely exact diagnosis previous to operation is sometimes impossible, must be conceded. That he is prepared to meet such emergencies we know, and that he is entitled to this descriptive designation of the work in which he is daily engaged is beyond question.

The obstetric surgeon with experience in the performance of abdominal operations for Cesarean section, puerperal infection, thrombophlebitis and such complications as he may encounter, must be capable of doing any intra-abdominal operation, for none can be more delicate or difficult than these.

The gynecologic surgeon who is capable of dealing successfully with old pelvic adhesions from pus tubes or pelvic abscesses and the intestinal and appendical lesions and complications incident thereto, is certainly capable of performing any of the other intra-abdominal operations. His long, constant, daily training in this abdominal work fits him to meet all intra-abdominal pathology with a skill and resourcefulness bred of experience.

Since we do these things with propriety and skill, why may we not be known to the world and to our fellows as doing them, through a correct title for the Section in which we do our work?

At a meeting of this Section in St. Louis last year the eminent and skilful surgeon who is now the President of the American Medical Association said in opening his discussion on uterine retroflexion and its treatment: "Fellow gynecologists, I address you in this discussion as fellow gynecologists, because it is all surgical, and all of the gynecologists are going to become general surgeons."

This remark was doubtless intended to be semi-facetious, but it nevertheless expressed the heretofore half-understood and implied reverse statement that all general surgeons are going to become gynecologists. In the phraseology of the prospector, we are warned that though we "grubstaked" the general surgeons in the gynecologic and abdominal field, they are going to "jump the claim" if they can.

I believe that the partial breaking down of the line of demarcation between the general surgeon on one hand, and the obstetric and gynecologic surgeon on the other, has been, on the whole, unfortunate for both. My observation has been that the general surgeon is, as a rule, a poor obstetric and gynecologic diagnostician, pathologist and operator, and that he is at the greatest disadvantage when he attempts plastic, pelvic, or vaginal work. Also the average gynecologic and obstetric surgeon is often an indifferent operator when working outside of his pelvic and abdominal limitations, but particularly when he attempts brain and bone surgery or the treatment of fractures, etc. Either surgeon is then working in a field in which his diagnostic, pathologic, and technical training and experience have not fitted him to render the best service of which he is capable. At the present time the fields of surgery and medicine are so large and so varied that no single individual can hope to cover them all and do the best work possible for his patients along all lines.

Let us try to swing the pendulum back to a perpendicular and redraw the differential line between the fields of surgical activity, and, as a first effort, let us determine to have the name of this Section altered to meet the conditions and circumstances under which we are working, and then limit our labors accordingly.

In making this suggestion I am not actuated by any wish to appropriate for ourselves the exclusive and sole practice in abdominal surgery, even if it were possible to do so, and of course it is neither possible nor desirable, but to bestow on this Section a dignified descriptive name covering our daily occupation as individuals, and our annual endeavor to benefit humanity and each other.

Though the title suggested for our Section may not now meet with unanimous approval, and notwithstanding the opposition which may be met from other sources in bringing about the change of name, I feel justified in suggesting it at this time with the hope that what appears to me to be a fitting and eminently desirable substitute for the present name may grow in favor and ultimately become a practical possibility.

The greatest skill of the best and most highly trained gynecologist and obstetrician is not displayed in the operating theater, but in his intimate knowledge of pelvic and abdominal pathology, his ability to base a correct diagnosis thereon and prescribe treatment, either medical or surgical, which may restore the patient to health.

Operators are numerous, far too numerous; pathologists and diagnosticians are few, far too few.

Prolonged general surgical training does not tend to create a skilled obstetric and gynecologic pathologist and diagnostician, or one who knows and appreciates the possibilities and advantages of non-operative methods for many pelvic diseases. On the other hand, a gynecologic and obstetric operator is evolved—and of these there are already more than enough.

The growth and development of gynecologic and obstetric wisdom was so rapid during the last two decades of the last century that our achievement in this field during the first decade of this century seems meager by comparison, and the literature of to-day presents relatively little that is really new.

Can it be possible that we have attained our full growth, or, resting on our oars, are we content with what we have done and satisfied to press no farther forward, though facing such unsolved problems as the prevention and cure of cancer and of the mysterious toxemias of pregnancy; or are we passing through a period of introspection and of analysis of what has been accomplished heretofore, and of elimination of the unnecessary and the undesirable?

The crystallization and concentration of ideas, the simplification of practice, and the determination of what not to do, that we have done before, is progress of the best sort. Though this may not be our banner constructive period, it will be none the less valuable to humanity if we learn to see our mistakes of the past and to avoid them in the future.

In closing, I thank you for the great honor you have conferred on me in electing me your Chairman. Assuring you of my appreciation of your cooperation in making this meeting so much of a success, and with particular gratitude to our faithful and unusually capable Secretary, Dr. Miller, I return to your ranks to render such aid and support to my successors in this office as may be in my power.

310 Metropolitan Building.

THE THERAPEUTIC APPLICATION OF TUBERCULIN IN THE TREATMENT OF AMBULATORY PULMONARY TUBERCULOSIS *

ITS INDICATIONS AND CONTRA-INDICATIONS

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Tuberculin is a valuable remedy in pulmonary tuberculosis when the lesion is limited in extent, and when the disease is pursuing a slow course with neither much febrile manifestation nor much general systemic disturbance. In afebrile advanced pulmonary tuberculosis, with fair appetite and digestion and little or no systemic disturbance, it may also be valuable. It must be used with caution in young tuberculous patients with actively incipient lesions, since frequently the injection of very minute doses produces a most vigorous reaction, whereas large doses in old tuberculous subjects do not produce any reaction at all; it should always be borne in mind that in recent infection and in the exacerbations which occasionally follow an old lesion, the reaction may be severe even when infinitesimal doses have been applied.

The indications for the use of tuberculin are usually in those early cases which have long been under observation and in which the tendency to progressive extension of the tuberculous process in the lungs is either very slow or is held in abeyance, and in those non-active advanced cases in which the process is stationary but a few bacilli are still demonstrable in the sputum.

In all cases of advanced pulmonary tuberculosis with either laryngeal, renal or intestinal complications, in cases with high temperature showing a mixed infection, in cases inclined to pulmonary hemorrhages, in cases of pulmonary tuberculosis in old or cachectic individuals, in cases of patients who are prostrated from the tuberculous infection, showing a general disturbance, and in all rapidly progressing cases, the use of tuberculin is strictly contra-indicated.

The therapeutic method of treatment consists in the use of tuberculin in very small and minute doses, beginning usually with 1/10 of a millimilligram and progressively increasing the dose until comparatively large doses have been administered, without producing the slightest reaction in the organism. It should be given by the subcutaneous method, at fixed and regular intervals. Long experience has taught that this injection is productive of the greatest good when the interval is about seven days. The previous point of injection should always be carefully examined before another is given, and if a little thickening or induration still lingers, the dose must not be repeated until all evidence of it has disappeared. Those cases will do best in which from the beginning of the treatment until immunization is reached no disturbance has been observed or in which throughout the treatment no reaction was manifested. It is not necessary, in order to produce tuberculin immunity, that enormously large doses of tuberculin should be given. Usually when doses from 1/10 to 1 milligram have been reached, immunization is fairly well established. This is evidenced by an increase of body weight, approximately normal temperature for the twenty-four hours, a pulse of fairly good tension, good appetite and a general appearance of health. From the onset it must be borne in mind that tuberculin does not produce a tuberculosis immunity, does not cure tuberculosis, but only establishes a tuberculin immunity; that is, by its use in minute doses the patient's resisting power is increased and the tendency to relapses lessened. Tuberculin is a most valuable weapon in our hands, but it is very essential that all the other supplementary forces—synergistic adjuncts—be used, such as diet, hygiene, fresh air, peace of mind, etc., in combination with tuberculin in treating pulmonary tuberculous patients.

In order to demonstrate what effect tuberculin would have on tuberculous patients, Drs. Karl and Silvio von Ruck, at their sanatorium at Asheville, conducted a series of well-observed experiments, the results of which were reported in the medical literature only recently. Numerous and extensive blood examinations were made on tuberculous patients, some of whom were treated with and others without tuberculin. These experiments proved conclusively that during the tuberculin treatment the agglutinating power of the blood was raised from 100 to 150 per cent., and remained high for years after, and at the same time the alkalinity of the blood was considerably increased; in contrast to this, no such blood-changes were demonstrable on patients who were treated on strictly dietetic-hygienic lines and without tuberculin.

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* Read before the West Side Branch, Chicago Medical Society, April 14, 1911.

CLINICAL REPORTS

At the Tuberculosis Clinic of the Chicago Tuberculosis Institute at Rush Medical College, which is now known as one of the tuberculosis dispensaries of the new Chicago Municipal Sanitarium, in the three years of clinical work, over 1,800 patients, tuberculous and nontuberculous, have been examined, diagnosed and cared for. A number of those who were tuberculous and in whom the conditions were favorable or suitable, received in connection with the usual treatment in vogue, in ambulatory cases, the progressive tuberculin medication. As a therapeutic measure, about three years ago the use of Koch's old tuberculin was begun, in proper dilution, and since then it has been given constantly, in all many hundreds of injections being made. It was early observable that in many cases the progressively increasing dosage of tuberculin went hand in hand with a steadily increasing body weight. I shall try to summarize the result in only eleven out of a total of fifty-two case histories, selected from a large number of examinations. All of the patients were considered suitable for the tuberculin treatment and nearly all did well under the tuberculin régime. Of the entire number none received less than ten subcutaneous injections, one patient receiving as many as 105. All cases were under observation for some time before the initial subdermal medication was given.

The method of preparing serial dilutions of tuberculin is as follows: Koch's Old Tuberculin is used, and, as a diluent, 0.5 c.c. of pure phenol (carbolic acid) in enough normal salt solution to make 100 c.c. One c.c. of the Old Tuberculin is diluted with 9 c.c. of the diluent; this dilution is called No. 0. One c.c. of Dilution 0 is diluted with 9 c.c. of the diluent, and the result is No. 1. The series is continued to Dilution 5. The amounts of Old Tuberculin contained in 1 c.c. of the various dilutions are as follows:

Dilution No.	Old Tuberculin C.c.	Mg.	Grains
0	0.1	...	1 1/2
1	0.01	...	1/6
2	0.001	...	1/60
3	0.0001	0.1	1/600
4	0.00001	0.01	1/6000
5	0.000001	0.001	1/60000

The initial diagnostic or probationary dose should be 0.05 c.c. (0.5 mg. or 1/120 grain of O. T.), 0.1 c.c.. or 0.2 c.c. of No. 1. The initial therapeutic dose should be 0.1 or 0.05 c.c. of No. 5; that is, 0.0001 mg. (1/600,000 grain) or 0.00005 mg. (1/1200000 grain) of Old Tuberculin.

Case 1 (T. B. Case 249).—*Diagnosis, incipient pulmonary tuberculosis.* First injection, June 17, 1908. Weight 135 pounds. Last injection *Jan. 25, 1911; highest weight reached* during the treatment was 161, a gain of 26 pounds. Number of injections given in two and one-half years, 105. Maximal dose given No. 0, 0.3=3/100 c.c. of pure tuberculin. This may be considered a very large dose. This patient is tolerant to such large dosage but it is not necessary to maintain such quantities in order to uphold the tuberculin immunity. Smaller doses are now given once in four or six weeks. This patient is quite well and performs hard manual labor.

Case 2 (T. B. Case 268).—Diagnosis, incipient pulmonary tuberculosis. First injection, July 15, 1908; weight 145½ pounds. Last injection, Jan. 8, 1911, present weight 167. Number of injections given, 68. Maximal dose No. 1, 0.6=6 milligrams. Under observation and treatment eighteen months, gain in weight 21½ pounds. This patient has followed his vocation throughout the treatment, is always of good cheer, and is an ideal hopeful patient.

Case 3 (T. B. Case 97).—Diagnosis, far-advanced pulmonary tuberculosis. Received the first injection Feb. 29, 1908; weight 97½ pounds. Last injection Dec. 12, 1908; weight 102¼ pounds, a gain of 5¾ pounds. During the time, a little over *nine months*, this patient received 39 subdermal treatments. Maximal dose No. 4, 0.7=7 millimilligram. This patient, unlike the last, was much depressed and discouraged throughout the treatment. A disseminated miliary tuberculosis ended his life about a year ago.

Case 4 (T. B. Case 115).—*Incipient; first injection* March 14, 1908; weight 126 pounds. Last injection June 22, 1910, weight 146½ pounds. Number of treatments received, 57. Maximal dose *given* No. 2, 0.7. Patient under observation fifteen months; gained in weight 20½ pounds.

Cases 5 and 6 (T. B. Cases 489 and 495).—*These are somewhat similar.* Both patients work every day, full time. Patient 6 (Case 495) works *ten hours daily* at hard work teaming, while Patient 5 (Case 489) works also full time at tailoring. The latter, who has chronic pulmonary tuberculosis, probably of many years standing, not active, received his first injection Jan. 2, 1909: weight 120 pounds. Last injection Jan. 22, 1911; weight 118½ pounds. During a period of a little over two years the patient received in all eighty-two injections, maximal dose *given* No. 0, 0.4=4/100 c.c. *of tuberculin. Although* at the time when the last injection was given his history chart *would show* a loss of 1½ pounds, still the history shows that at one time during the treatment he had gained 8½ pounds in body weight. Patient 6 (Case 495) moderately advanced, first injection Jan. 9, 1909; weight 145¾ pounds. Last injection Jan. 11, 1911; weight 145 pounds; maximal dose No. 2, 0.7. Received in two years *fifty-one injections.* This patient also showed a loss at the last weighing, ¾ pounds, and yet at one time during the treatment he registered 153 pounds, a gain of 7¼ pounds.

Case 7 (T. B. Case 528).—Moderately advanced. First injection Feb. 10, 1909; weight 78½ pounds. Last injection Dec. 31, 1910; weight 96 pounds. Total number of injections given 66. Maximal dose No. 0, 0.1. *Tuberculin treatment* continued for twenty-two months; a gain in weight of 17½ pounds.

Case 8 (T. B. Case 876).—Advanced pulmonary tuberculosis with laryngeal involvement, but not active at the time of beginning treatment. First injection Sept. 25, 1909; last, Jan. 29, 1910. Seventeen injections. Maximal dose No. 4, 0.6. Subdermal medication was given for four months and no improvement in the patient's condition being noted, the tuberculin treatment was *discontinued and after an interval of several* months he was given for a time, in progressively increasing doses, a subdermal medication of a nuclein solution. No *improvement whatsoever followed* this medication.

Case 9 (T. B. Case 979).—The patient is an adult suffering from glandular tuberculosis. Many old cervical scars as well as glands are demonstrable. This patient is doing remarkably well. *First injection. Nov. 17, 1909;* weight 153 pounds. Last injection Jan. 25, 1911. Present weight 165½ pounds. Received in all, 47 injections. Maximal dose, No. 2, 0.9; a gain of 12½ pounds.

Case 10 (T. B. Case 1522).—Incipient pulmonary tuberculosis. First injection Sept. 7, 1910; weight 120 pounds. Last injection Jan. 25, 1911; weight 128 pounds. Patient given *seventeen injections in four months,* gain in weight 8 pounds. Maximal dose No. 4, 0.6.

Case 11 (801).—*Moderately advanced.* First injection Sept. 18, 1909. Weight 114 pounds. Last injection June 29, 1910. Weight 121 pounds. Patient received a total of twenty-seven injections in nine months and gained 7 pounds in weight. Maximal dose No. 4, 0.5.

Patients 10 and 11 both showed a gain in weight at the time that the last treatment was given, Patient 10, as stated above, showing a gain of 8 pounds and Patient 11 an increase of 7 pounds. During the time that the treatment was given Patient 10 at one point reached a gain in weight of 12½ pounds and Patient 11 gained as high as 16¼. It must be remembered that the gain in weight in the tuberculous is not a constant one, is subject to great fluctuations even under the same continued hygienic, dietetic and rest conditions. The tuberculous patient is greatly influenced by the seasons, and under the most favorable conditions there is usually a decrease in body weight in the early spring and summer months with a corresponding increase toward the fall and winter.

AMBULATORY VERSUS SANATORIUM TREATMENT

The use of tuberculin in the treatment of pulmonary tuberculosis in suitable cases finds its greatest exponents in a well-equipped tuberculosis sanatorium. There, cases can be closely observed, studied, results accurately tabulated, the effect of a regulated administration of tuberculin carefully noted, and from such histories much valuable information and proper deductions may be gathered. Not so in the treatment of ambulatory tuberculous patients. The treatment cannot be given with any such degree of regularity as with the strict rules enforced at a sanatorium. Ambulatory patients do not always present themselves at the stipulated hour or day to receive the next regular treatment, as case histories only too well show. In a few isolated cases only is there any semblance of a systematic medication and yet with all these provisoes the results here given will show that the use of tuberculin is productive of good results, even if the treatment is somewhat irregular and not properly systematized. Therefore, I recommend, as I have stated before, that in all cases of pulmonary tuberculosis, carefully selected and suitable, the subdermal tuberculin medication should be given in correlation and connection with all the other approved methods of treatment.

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TREATMENT OF PURULENT OPHTHALMIA AND SIMPLE MEANS FOR ITS PREVENTION IN INFANTS*

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AKRON, O.

Any pus-producing organism or combination of such organisms may cause purulent ophthalmia, although the gonococcus of Neisser is responsible for a very large percentage, especially of the worst cases. Contrary to generally expressed opinion, I do not believe that the gonococcus or other pathogenic germs, unless extremely virulent, can quickly and successfully attack or destroy normal corneal epithelium. Intact healthy epithelium everywhere in the body, over skin or mucous membrane, presents the most effectual barrier against infection.

A corneal ulcer, the chief danger in these cases, is due either to the extreme virulence of the infection; poor nourishment of the cornea resulting from pressure strangulation, produced by local pressure of the swollen surrounding parts interfering with blood, lymph and nerve function; to direct pressure, a form of traumatism, by the undrained retained and, therefore, more injurious discharges; or to ordinary injuries and abrasions of the corneal epithelium. The two last-mentioned causes, and, to nearly as great a degree, the second, may be forestalled if free drainage is secured without causing any possible injury to the cornea. Therefore, the policy of treatment should be guided by four considerations—the careful, but thorough, use of antiseptics which are of sufficient strength to destroy or inhibit the growth of the infectious bacteria, but which are not too irritating to the local tissues; watchful care over corneal and general nutrition; free drainage; and, especially, avoidance of even the slightest injuries to the delicate corneal epithelium.

ANTISEPTIC RECOMMENDED

A bacteriologic examination of the discharge should be made as early as possible, which will be of much service in determining the treatment. In my practice 1 per cent. silver nitrate solution is usually employed, but in virulent gonorrheal inflammations 2 per cent., and, sometimes, depending on the severity, much stronger solutions may be better for a few treatments. In certain mild non-gonorrheal cases 0.5 per cent. is usually efficient. If the Klebs-Löffler bacillus is found, antitoxin should be administered. If the diplobacillus is present, weak solutions of zinc sulphate should be instilled frequently. The organic silver salts have been much extolled, especially protargol and argyrol (Cheney[1]), but the frequent and lavish use of solutions of these drugs, together with systematic cleansing, requiring separation of the lid margins and, therefore, preventing them gumming together, seems to me to explain the results that have been obtained by the employment of these feeble antiseptics (Graefe-Saemisch,[2] Marshall and Neave,[3] Derby[4]). Since the eyelids are so tightly applied to the eyeball the slightly heavier specific gravity of these solutions than of the tears is undoubtedly of slight importance in spreading them. Argyrol solutions do not compare with those of silver nitrate in antiseptic properties and cannot be used clinically with as nice discernment as to strength required. The appearance in all treatments is the same because of the constant dark color of all strengths of argyrol solutions. It is easy to observe the different effects of 0.5, 1 or 2 per cent. silver nitrate solutions, and if employed with caution, and the resulting albuminous precipitate is carefully washed away by a small quantity of any unirritating solution, the antiseptic effect is sufficient without injuring the tissues. Schneider[5] asserts that results do not depend so much on the antiseptic property of the drug used as on its power to stimulate the production of a bactericidal substance, leukin. My experience with other antiseptics recommended, e. g., mercury, has been too limited to report.

It is not enough merely to drop the silver solution between the lids, or to apply it to a part of the surfaces of the everted upper lids, which have been the methods ordinarily used, as by these methods the solution does not come in contact with the organisms in the lower and especially in the upper portions of the eyesac. The lids should be separated and elevated away from the eye-ball, so that a lake of silver solution may lie for one-half minute or longer between them, coming in contact with every portion of the conjunctival sac.

PHYSICIAN'S DAILY TREATMENT

Once each day the physician treats the eyes, holding the child's head between his rubber- or oilcloth-covered knees, the child being wrapped in a sheet fastened by a safety-pin and held by a nurse sitting on a chair opposite. The physician should separate the lids with proper lid retractors, being careful not to touch the cornea. The lids should not only be separated, but they should be pulled away from the eye-ball. Solid lid retractors should not be used, as they are likely to prevent the solution reaching underlying parts of the conjunctiva. The wire lid retractors on the market do not pass far enough under the upper lid. I had longer models made, but they are more difficult to manipulate than tenotomy hooks with smooth rounded bulbar ends. The latter are more readily introduced and more easily moved from side to side. Smooth, blunt-ended probes, properly bent, will serve. The retractor employed for the upper lid should pull it well away from the eye-ball, and be long enough, about one-half inch, to reach to the upper limit of the eyesac. I employ a large tenotomy hook like Green's for the Smith-Indian cataract operation. A smaller one will do for the lower. The hook should form a slightly acute angle with the handle, as otherwise the lid readily slips from its hold. It should be well nickeled and before using should be carefully cleaned with gauze so that no foreign matter will be wiped on the inner surfaces of the lids.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Cheney: Boston Med. and Surg. Jour., clx, No. 9, p. 269.
[2] Graefe-Saemisch: Handbook of Ophthalmology, Fas. 8, part 1, p. 261.
[3] Marshall and Neave: Brit. Med. Jour., Aug. 18, 1906.
[4] Derby: Boston Med. and Surg. Jour., clv, No. 13, p. 342.
[5] Schneider: Arch. f. Ophth. (v. Graefe's), lxxiii, part 2.

The physician must be careful in using the lid retractors that they do not touch the cornea. The retractor for the upper lid should be used first, placing it under the lid, the margin of which has been pulled slightly away from the eye-ball; the nurse then pulls the lower lid downward with the finger, everting it sufficiently so that the other retractor may be readily introduced under it. Into the sac pulled open by the retractors held by the physician, the nurse, properly instructed, gently pours several drops of the chosen strength of silver nitrate solution, flooding the whole sac, including its upper and lower limits. The retractors should be moved from side to side in the same direction in order that the solution used may get into every portion of the upper and lower parts of the eyesac. After the silver solution has flooded the sac for one-half to one minute, the nurse is directed to wash it away with normal saline, saturated boric acid solution or sterile water. Care should be exercised so that no gritty, undissolved salt may get into the eyesac, as it might injure the corneal epithelium. For the same reason care should be used not to drop solutions on the cornea, especially from a considerable height, but it should be on the adjoining conjunctiva of the lids or eye-ball, preferably on the side toward the nose. The child's face should be tilted toward the side being treated, so that the solution will not run over the nose into the other eyesac. If both eyes are infected the better eye should be treated first.

After the lid retractors are removed good drainage may be secured by preventing gumming of the lid margins, which may be done by dropping on them one or two drops of liquid petrolatum, or by applying sterile petrolatum, or other simple, non-gritty ointment to the margin of one or both lids. When the lids are separated, especially if the infant attempts to squeeze them together as in crying, the margins of the lids are usually everted so that the vaselin may be applied to one or both lid margins without any danger of injuring the eye-ball. It can be applied by means of cotton tightly wrapped on a sterile toothpick.

CARE BETWEEN THE PHYSICIAN'S TREATMENTS

The care of the eyes between the physician's treatments consists in maintaining free drainage by smearing the margin of either or both everted lids as often as necessary with some simple, non-gritty ointment, e. g., sterile petrolatum, zinc oxid or 2 per cent. calomel ointment. The same result may be more safely secured by dropping on the margins of the lids liquid petrolatum, solutions of argyrol or even olive oil. I much prefer the liquid petrolatum or similar product to olive oil. This prevents the lid margins gumming together. No accumulation behind the lids should be permitted. They should be gently separated as often as necessary to relieve the discharge. To be certain of good drainage the nurse or attendant should separate the lids every hour or two, making sure that they are not gummed together, and whenever there is a tendency to gumming drop in the oil or argyrol solution or reapply the ointment. If the ointment is chosen, the nurse or attendant should be instructed to use it carefully so as not to touch or rub the cornea, causing a corneal abrasion with probable subsequent ulceration. Pus that has escaped from the eyesac no longer endangers the eye, but may be wiped from the outer surfaces of the lids by moist cotton or gauze; however, no attempt should be made to wipe or wash it from the eyesac. Such unnecessary attempts at drainage are likely, even in skilled hands, to cause abrasions of the cornea, defeating the chief purpose of treatment. I formerly advocated[6] unnecessarily frequent cleansing and irrigations with various non-irritating solutions, exhausting to both nurse and patient, losing sight of the fact that such frequent treatments subject the eyes to great risk of dangerous traumatisms, especially at night, or with poor illumination, or when the attendants are tired or exhausted.

TREATMENT IN ADULTS

Treatment in adults is similar to that in infants, except that three or four drops of 1 per cent. holocain or 4 per cent. novocain solution are instilled at minute intervals before giving the daily treatment with silver nitrate solution. Cold applications for a short time after the daily use of the silver nitrate solution are soothing and not as dangerous as in infants. If there is much spasm of the lids an antispasmodic, such as morphin, belladonna or bromids, should be administered. Gonococcus vaccine often proves very beneficial in metastatic gonorrheal conjunctivitis due either to endogenous infection or to the presence of toxins, especially where the original infection is of long standing.

In ordinary purulent ophthalmia of adults good results may usually be expected, if once each day every part of the eyesac is flooded with a proper silver nitrate solution, if the lid margins are separated at regular intervals and prevented from gumming together by occasionally dropping on them liquid petrolatum or 25 per cent. argyrol solutions, or by applying petrolatum or other lubricants, and, most important of all, if great care is exercised that nothing be done, such as frequent washing or douching of the eyesac, to injure the delicate epithelium of the cornea, which almost surely will give rise to an ulcer.

Other questions that may arise in treating these often difficult cases in both infants and adults, such as the need of canthotomy or scarification and the after-care of these cases by simple astringents, optical iridectomies, etc., have been sufficiently considered by other writers.

Contrary to my former policy of treatment, I now wish to insist that sufficient drainage may be secured by preventing gumming of the lid margins and by their regular separation; further, that frequent irrigations of the eyesac are not only unnecessary, but positively dangerous, since slight corneal traumatisms and, therefore, ulcers are more likely to result. Frequent irrigations, in order to be safe, must be done faithfully and carefully, in a hospital, by trained nurses, conditions not always obtainable under ordinary circumstances for out-patients or when mother and child should not be separated. Although it may be urged that the use of proper hooks, not possessed by all physicians, is dangerous in untrained hands, by the experienced quicker results are more safely secured than by any other method. In untrained hands any method is dangerous, but when hooks are not to be had or their use feared, the daily instillation of the silver solution, the lids being drawn widely apart and moved in such a way that the solution will be distributed as far beneath them as possible, maintenance of free drainage, and avoidance of dangerous washing and irrigating, will nearly always secure good results, although not as promptly as when the hooks are used.

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[6] Stevenson: Lancet-Clinic, Nov. 30, 1907.

PROPHYLAXIS IN INFANTS

On the completion of labor the child's eyes should always receive consideration and attention, as a large proportion of cases of ophthalmia neonatorum—Nance[7] claims two-thirds—are not due to the gonococcus, but to other pathogenic organisms likely to be occasionally present in any woman's vaginal discharges. When the mother has leukorrhea, especially gonorrhea, as easily determined by the microscope as a chemical examination of the urine can be made, considering not only the great danger of the child becoming partially or totally blind, but also the various metastatic conditions (McKee,[8] Stieren,[9] Bull[10]) possible and the increased infant mortality, it is certainly a sanitary crime not to use preventive measures. Pregnant women should be instructed to perform daily external cleansing with soap and water and a clean wash cloth, and if irritating or profuse white discharge is present to consult their physicians.

Method.—After labor is completed and the child removed from the mother, with clean hands and gauze, preferably dry absorbent, the child's face around the eyes and nose should first be wiped clean, wiping in a direction away from the nose. Its eyelids, which should not be opened during this process, should likewise be carefully cleaned. (This does not sterilize the part of the face around the eyes, which is practically impossible, especially with any unirritating safe strength of antiseptic solution.) Next, the lids should be separated and, if there is no pus in the eyesac from an already established inflammation requiring treatment, one or two drops of 1 per cent. silver nitrate solution should be dropped between the outer ends of the lids. This amount and strength of silver nitrate does not require special neutralization so that instillation of salt solutions is not necessary. Washing or cleaning the eyes with any solution, before or after using the silver, is not recommended, as it is likely to injure the epithelium on the cornea and may wash infectious material from the partially cleaned face into the eye or from one eye into the other. The slightest injury to the cornea, easily avoided, may be followed by corneal ulcer and loss of vision or eye-ball. The lips and nose should be wiped free of mucus and the little finger, wrapped with a piece of gauze, should be passed into the child's mouth and any accumulated mucus removed by an outward sweep of the finger. To help prevent subsequent infections from the nose I advise dropping one drop, not more, of 1 per cent. silver nitrate solution into each nostril. The general toilet of the face and body may then receive attention. If there is considerable swelling or reaction after the use of the silver solution, light cloths wrung out of cold water may be applied for fifteen minutes or one-half hour, but are not often necessary. Harmless bleeding occurs rarely and usually is probably due to unnecessary roughness in separating the lids. If there is delay in labor after delivery of the head, some authorities advise immediate attention to the infant's eyes before delivering the body. Very rarely this might be advisable, especially if the eyelids become separated, but usually would not be good practice, as the accoucheur's and nurse's hands are not properly prepared to treat the eyes and might only infect them. The eyes would also be exposed to subsequent infections during labor.

AFTER-CARE

After-Care.—In subsequently cleaning the child's eyelids and around the face and eyes, the nurse or attendant should be instructed to destroy all wipes and not to use any cloths or solutions dirtied with the mother's discharges or that had been used in previously cleaning any part of the child. They should always be instructed to inform the physician—and are compelled to do so under penalty of the law in many states—of any marked or continued discharge from or redness of the infant's eyes, especially if the lids become swollen or gummed together. Although by the use of prophylactic measures the severe and dangerous ophthalmias are almost entirely prevented, it should be understood that, for the first day or two, slight discharge and redness, due to the irritation of the solutions used, are not uncommon, occurring approximately in 10 per cent. of the cases. This silver irritation quickly disappears, requiring only cleanliness and prevention of the lids gumming together. A few cold applications may be helpful. Repeated instillations of silver salts are not only unnecessary, but likely to prove harmful.

The eyelids are nearly always closed during labor, so that on opening the lids whatever germs gain entrance into the eyesac are probably from the eyelashes or on or near the margin of the lids. Therefore, a drop or two of the silver solution placed in the outer portion of the eyesac, and swept across the eye by the closing of the lids, nearly always reaches all the germs present. It is quite different after inflammation is established and the germs have gained entrance, not only into the upper and lower folds of the sac, but into the recesses of the glands. It is not only necessary that prophylactic measures be used and properly used with attention to detail, but that continual care be exercised that the eyes do not become infected later.

IMPORTANCE OF OPHTHALMIA NEONATORUM

The number of persons totally blind throughout life from this preventable disease, according to Keller,[11] 25.21 per cent. of those who enter our blind institutions, and fully one-tenth of the blindness in any country, is only a partial index of its evil results. Account must also be taken of the high mortality among these unfortunates, of the disfigured and disabled eyes of a far greater number of others, perhaps totally blind in one eye, scarred on one or both—with defective vision—and, therefore, lessened earning power.

It is estimated that the total annual loss from this disease in the United States is $7,000,000, and that an amount of more than $1,000,000 annually is spent in partially caring for its victims. The community is said to pay an excess of $4,500 during the school life of a blind child. In this and other civilized countries millions are spent yearly to safeguard the public against a few criminals, but even paltry sums are reluctantly spent in preventing diseases and hygienic evils which are responsible for much more misery, sickness and even death, and which impair the usefulness of many helpless citizens. The property rights of an infant or minor are protected by the state. Parents or guardians are not permitted to abuse him, and for the protection and good of the state he is compelled to go to school and is not permitted to do injurious work while of school age. The infant is entitled to protection against preventable blindness and the state ultimately may find it necessary to help stamp out this pestilence, just as it passes other sanitary measures.

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[7] Nance: Illinois Med. Jour., October, 1908.
[8] McKee: Ophthalmology, July, 1909.
[9] Stieren: Ophth. Rec., July, 1909.
[10] Bull: New York Med. Jour., May 15, 1909.
[11] Keller: Lancet-Clinic, Feb 27, 1909.

In 1906 a committee of the American Medical Association was appointed, with Dr. F. Park Lewis as chairman, to determine ways and means of securing the more general adoption, where necessary, of well known methods of eliminating this disease. In every state the active cooperation of the medical profession, public health authorities and other agencies is being sought. A national movement has been inaugurated to secure the passage and enforcement of proper laws dealing with these cases in this country, as has been done by most of the European powers; also to bring about a more general, if not universal, adoption of simple prophylactic measures. This has come about through a recognition of the importance of this disease, not only to the individual blinded at birth, before being trained and educated, but also to the state.

ADVISABILITY OF ROUTINE USE OF PROPHYLACTIC

In this earnest crusade for the more general use of a prophylactic, it is undoubtedly good policy to insist on its routine use in public lying-in wards or hospitals, where these infections are so common, and by midwives who, with their limited knowledge, cannot be expected to form correct judgments. The capable physician in private practice, however, well acquainted with his patient, is likely to insist on his right to determine in each case, a prerogative of his profession, whether the use of a prophylactic is necessary or not. If a vaginal discharge is present, time will often permit a bacteriologic examination to be made which will determine the variety of pathogenic organisms present, any of which may cause ophthalmia neonatorum. The presence of the gonococcus demands prophylactic measures. In cases, however, in which a discharge is present it is easier to employ a prophylactic than to make a bacteriologic examination. If properly and carefully used, it will very rarely cause more than a little temporary redness and discharge, although the advisability of its universal use is still debatable. It is going too far, is unjust and unfair, to say that if infection occurs or even blindness results that it is always due to the neglect and carelessness of physician, midwife or nurse, for the child's eyes may become infected after the proper use of a prophylactic, as from the nose through the nasal duct, from subsequent introduction of infection, or may have been infected sometime before birth, which Stephenson[12] claims is not infrequent (Lewis, Harper and Pease,[13] Nance[7]). However, these professions must bear a large part of the blame for the continued frequency of this nearly always preventable disease.

While the knowledge that a large proportion of blindness from ophthalmia neonatorum is due to gonorrhea in one or both parents and placing the real responsibility of the child's blindness on them, will be a moral lesson to the public, the fact remains that it is not all due to this cause. The general understanding and belief that infection may occur in any case, gonorrheal as well as non-gonorrheal, will permit of the freer use of a prophylactic without any danger of giving offense by its use. In addition, discussion and dissemination of knowledge concerning ophthalmia neonatorum, over which a mock modesty is otherwise too likely to draw a veil, will thereby be furthered. Morrow says, "Social tradition holds that it is a greater violation of conventional propriety publicly to mention this infection (gonorrhea) than privately to contract it and carry it home to the family." Unfortunately at the present time this is the best reason why, in the movement for the prevention of blindness, too much emphasis should not be placed on its most common cause. A freer discussion of this commonly, but not necessarily, gonorrheal disease will serve as an entering wedge toward a more general discussion and understanding of sex problems.

Physicians will no doubt be surprised to learn that a social service study of 116 cases of ophthalmia neonatorum cared for in the wards of the Massachusetts Eye and Ear Infirmary, October, 1908-1909, showed that only two of the patients had been attended by midwives, and that only temporarily until their physician could be secured, and that physicians had attended all the other cases throughout. As Edgar[14] has said, "The burden of the blame cannot all be placed on the midwife."

At present, however, the necessary midwife, who in poor families serves not only as accoucheur, but often takes the place of nurse and housekeeper, and who attends about one-half the obstetric cases in our large cities, presents a serious problem for solution. Recommendations in regard to her are freely made, requiring better training, prompt notification of births, compulsory use of prophylactic solutions, early reports, on birth certificates, of the use of such solutions, and immediate reports of cases of ophthalmia, with punishment for repeated neglect by fines or withdrawal of license to practice by registration authorities. The medical profession in this day of many false gods must be careful, however, not to encourage unduly too many legislative activities, especially by making them, at least apparently, necessary. Statutes compelling physicians to use certain rule-of-thumb remedies as a routine for certain conditions will never be advisable nor practical. The beginning of such a course by the public, with its attendant penalties on the profession, may be fraught with grave dangers both to the public and to our profession. The proper use of a good prophylactic by a well-trained physician is a safeguard, but, the statute-forced, perfunctory, careless or improper employment of any solution of silver that happens to be convenient, by any one, physician or midwife, who is not clean and properly trained, is mere interference, and is likely to result in more blindness in the aggregate than if not used at all. The campaign against ophthalmia neonatorum will be truly successful in proportion as it remains one of enlightenment and education.

Human error is sure to become manifest in the zeal and enthusiasm attending any great or useful reform or propaganda and great care must be exercised that the habitual reformer or yellow journalist does not harm innocent persons or jeopardize this movement by his too frequent indulgence in misrepresentation or exaggeration. Physicians should not permit such mistakes to prejudice them against a good movement, but should do their part properly to further it.

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[12] Stephenson: The Hospital, March 12, 1910.

[13] Lewis, Harper and Pease: Ophthalmia Neonatorum and Its Prevention, The Journal A. M. A., March 13, 1909, p. 876.

[14] Edgar: New York Med. Jour, May 15, 1909.

VALUE OF PROPHYLAXIS

The prevention of blindness from this cause is too important to demand argument, too successful to require debate, too necessary to need exaggeration or overstatement. The value of prophylaxis in these cases, one of the greatest triumphs of modern scientific, preventive medicine, has been so clearly proved by carefully computed statistics of incontestable accuracy, often published, secured by responsible medical authorities in many civilized countries, that members of the profession can ill afford to assume an attitude of indifference or presume to question the usefulness of a prophylactic (Gehrung[15]). The solution is easily employed and can be readily secured, is freely distributed by many state health boards, and conscientious physicians should always have fresh, clear solutions in their obstetric bags. The objections to frequent use of prophylactic measures, slight pain and mild silver conjunctivitis in many children who would not be likely to have ophthalmia neonatorum, are not comparable in importance to the almost never-failing success in preventing this no longer necessarily venereal or shame disease. The great lying-in hospitals in which cases of ophthalmia neonatorum and its results were formerly so conspicuous, very rarely have any such cases since the routine use of some good method of prophylaxis. That some physicians of large experience have not had any cases of severe ophthalmia neonatorum is their good fortune, but only begets a false sense of security for the future. It is not a parallel argument to say that because some people die of appendicitis, therefore, every appendix should be removed. Such a course would be attended with risks out of proportion to the results to be obtained. The prophylactic properly used is practically never dangerous. It is not true that a drop placed in the eye after inflammation has once begun is the same as one used soon after birth. In the latter case, unless inflammation is already established, there are probably only a few germs along the margins of the lids; in the former they are distributed throughout the conjunctival sac in its folds and recesses and will therefore require severe treatment to destroy them. It is difficult to understand the indifference of many physicians to this important subject, about which so much is being written, for many such physicians are men who frankly condemn and recommend prosecution of quacks, Christian Scientists, etc., for their malpractice and vagaries. The time is nearly here when the accoucheur and nurse will be subjected to severe criticism and reproach, whether deserved or not, and considered culpably negligent and censurable in every case in which ophthalmia neonatorum develops, especially if measures for its prevention have been neglected, as nurse and physician are now blamed if proper aseptic precautions for the protection of the mother against infection are not observed.

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[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

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[15] Gehrung: New York State Jour. Med., ix, No. 5, p. 205.

Criminals and Defectives.—When a criminal is referred to as "defective," a misconception is liable to be created, as the general impression made by the word is that of physical deformity. Yet, he is strictly speaking within the meaning of the word, for he is incompetent.—Jour. Crim. Law and Criminology.

THE SIGNIFICANCE OF RETINAL HEMORRHAGE

BASED ON A STUDY OF THE SUBSEQUENT HISTORY OF ONE HUNDRED AND EIGHTY-SEVEN CASES *

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The various types of retinitis seen during a practice of more than a score of years have emphasized the fact that the therapeutic measures at our command in this condition are practically valueless. If recovery occurs, it must be ascribed to the recuperative powers of Nature, rather than to any effort of our own. Except in the albuminuric type, the prognostic significance of the disease has not been sufficiently appreciated to warrant the text-books in succinctly stating the fact, or to influence us in caring for the future welfare of the patient rather than devoting our entire energies to the relief of the existing condition.

It was to ascertain whether other than the albuminuric forms of retinitis were as significant of grave termination that I have made a study of 187 cases of retinitis occurring in private practice since 1890. The much larger number seen in my hospital service has been omitted because of my inability to trace the subsequent history of the patients. Specific retinitis has been omitted because of its nature, and because of the fact that it is usually much more amenable to treatment than the non-syphilitic types.

It has been my practice to diagnose my cases under one of six heads:

1. Retinal apoplexy, due to,
    (a) A rupture of the walls of a vessel;
    (b) Diapedesis.
2. Simple retinitis, secondary to retinal apoplexy.
3. Hemorrhagic retinitis with secondary hemorrhages.
4. Albuminuric retinitis.
5. Diabetic retinitis.
6. Chorioretinitis.

While the classification may be deemed imperfect, it serves to eliminate the forms of retinitis which are not associated with hemorrhages and affords the information desired for the present inquiry.

Text-books on ophthalmology, with few exceptions, pass the subject of prognosis with the statement that "retinal apoplexy and hemorrhagic retinitis are of grave import," "a forerunner of cerebral apoplexy," or "an indication of grave vascular or cardiac lesions," while they are united in the opinion that albuminuric retinitis is fatal within a short time in 70 per cent. of cases. This part of the subject has been ably discussed by various authors, and the statistics of the cases of albuminuric retinitis are offered merely as corroborative evidence of the gravity of the condition, yet the statement of Porter that "all cases of albuminuric retinitis are found in syphilitics," is so abundantly disproved by my own cases that I cannot forbear to call attention to them. The comparatively few diseases which are ascribed as the cause of death in my fatal cases emphasize our present knowledge of the etiology of hemorrhagic retinitis, which may be briefly summed up as follows:

1. Atheroma.
2. Vasculitis and perivasculitis.
3. Increased arterial or venous pressure.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

4. Altered condition of the blood found in nephritis, glycosuria, oxaluria or profound toxemia.
5. Traumatism.
6. Reflex disturbances.

All the deaths which have occurred may be ascribed to one of these six causes.

I have records of 240 cases of retinitis, and of these I have been able to trace the subsequent histories of 187. I am unable to account for fifty-three. Seventy-four are living and 113 are dead.

TABLE 1.—Showing Outcome in 187 Cases of Various Types of Retinitis

Type of Disease	No. of Patients	Living	Dead	Per cent. Dead
Retinal apoplexy	22	17	5	22.7
Hem. retinitis	47	21	26	55.3
Alb. retinitis	101	26	75	74.2
Diab. retinitis	10	5	5	50.0
Chorioretinitis	7	5	2	28.6
	187	74	113	60.4

So far as may be judged by such a small number of cases, 60 per cent. of all cases of non-syphilitic hemorrhagic retinitis terminate fatally within a few years; while of the hemorrhagic type a much larger number (55.3 per cent.) than is generally believed, are rapidly fatal. Any disease in which more than half of the patients die within a short time is worthy of careful study.

TABLE 4.—Duration of Life

Causes of Death	Died within 6 months.	Died 6 mos. to 1 year.	Died 1 to 2 years.	Died 3 to 10 years.	Died over 10 years.	Total.
Nephritis	38	15	10	10	2	75
Cerebral tumor	1	2	1	1	..	5
Apoplexy	2	7	1	7	..	17
Diabetes	2	..	2	..	..	4
Arteriosclerosis	..	..	..	2	..	2
Pulmonary tuberculosis	1	..	..	1	..	2
Suicide	..	1	..	1	..	2
General paresis	..	..	1	..	..	1
Cardiac disease	..	..	1	2	..	3
Rheumatism	..	..	..	1	..	1
Diphtheria	..	..	1	..	..	1
	44	25	17	25	2	113

TABLE 5.—Ages of Fatal Cases of Nephritis

	No. of Cases	Average Duration of Life
Under twenty years	1	2 weeks
Twenty to thirty years	12	5 months
Thirty to forty years	11	8 months
Forty to fifty years	9	30 months
Fifty to sixty years	25	18 months
Sixty to seventy years	12	20 months
Seventy to eighty years	4	27 months
Over eighty years	1	2 months
	75	

TABLE 2.—State of Health of Living Patients

	Period of Observation						Diseases									
	One Year.	Two Years.	Three Years.	Five to Ten Years.	Over Ten Years.	Total.	Usual Health.	Poor Health.	Blind.	Hemiplegia.	Paralysis Agitans.	Epilepsy.	Mental Disease.	Arteriosclerosis.	Rheumatism.	Total.
Ret. apoplexy	6	4	..	1	6	17	10	..	1	4	..	..	..	..	2	..
Hem. retinitis	3	5	1	12	..	21	11	1	3	..	1	2	2	1	..	..
Alb. retinitis	7	9	2	6	2	26	14	9	3	..	..	..	..	..	..	..
Diab. retinitis	2	..	1	..	2	5	..	3	1	1	..	..	..	..	..	..
Chorioretinitis	.	2	..	1	2	5	5	..	..	..	..	..	..	..	..	..
	18	20	4	20	12	74	40	13	8	5	1	2	2	1	2—	74

We may gain valuable information by a consideration of the state of health of those now living, and in all cases of which I have not personal knowledge I have gained my information from the family physician.

Of the seventy-four living patients thirty-four, or 46 per cent., are in confessedly poor health, and the similarity between the specific diseases from which they suffer and the causes of death shown in Table 3 warrants the assumption that the mortality there shown will in a short time be increased.

I desire also to call attention to the fact that it is hemorrhagic retinitis which yields the larger percentage of the cases of poor health.

TABLE 3.—Causes of Death

	Nephritis.	Cerebral Tumor.	Apoplexy.	Diabetes.	Arteriosclerosis.	Pulmonary Tuberculosis	Suicide.	General Paresis.	Cardiac Disease.	Rheumatism.	Diphtheria.	
Ret. apoplexy	..	..	3	..	1	..	..	..	1	..	..	5
Hem. retinitis	..	5	12	..	1	2	2	1	2	..	1	26
Alb. retinitis	75	..	..	..	..	..	..	..	..	..	..	75
Diab. retinitis	..	..	..	4	..	..	..	..	..	1	..	5
Chorioretinitis	..	..	2	..	..	..	..	..	..	..	..	2
	75	5	17	[illegible]	2	2	2	1	3	1	1	113

TABLE 6.—Duration of Life in Fatal Cases of Nephritis

One day, 1 case; 2 days, 1 case; 1 week, 1 case; 2 weeks, 3 cases; 1 month, 6 cases; total, 12, or 15 per cent., died within one month.

Two months, 5 cases; 3 months, 10 cases; 4 months, 7 cases; 5 months, 2 cases; 6 months, 3 cases; total, 39, or 52 per cent., died within six months.

Seven months, 1 case; 9 months, 3 cases; 10 months, 1 case; 11 months, 3 cases; 1 year, 7 cases; total, 54, or 72 per cent., died within one year.

Eighteen months, 2 cases; 19 months, 1 case; 20 months, 1 case; 24 months, 6 cases; total, 64, or 85 per cent., died within two years.

Three years, 5 cases; total, 69, or 92 per cent., died within three years.

Five years, 1 case; 6 years, 1 case; 8 years, 2 cases; 10 years, 1 case; 12 years, 1 case; total, 75.

TABLE 7.—Duration of Life in All Cases

	Cases	Per Cent.
Living at end of ten years or more	74	40.9
Died in one year	70	37.4
Died in two years	17	9.0
Died in three years	4	2.1
Died in three to ten years	19	10.1
Died after ten years	3	0.5
	187	100.0

Chances of death in 1 year, 37.4 per cent.
Chances of death in 2 years, 46.4 per cent.
Chances of death in 3 years, 48.5 per cent.

If these statistics are correct (and I have taken great pains in their preparation, in which I have been greatly assisted by my associate, Dr. J. W. Leech), a study of their findings will reveal what I have endeavored to prove, i. e., that aside from the well-known, speedily fatal termination of albuminuric retinitis, not only simple retinal apoplexy, but all the types of retinitis associated with hemorrhages are danger signals, and that our duty lies more in the safeguarding of the patient's future than in the treatment of the present ailment. It offers to life insurance examiners the possibility of forecasting the future of an applicant, and thus determining his value as a risk with more accuracy than by the ordinary methods of examination, and suggests the advisability of insisting on an ophthalmoscopic examination in every case. The comparatively small number of cases, of course, weakens our conclusions, but what is true of the whole is in a measure true of its parts, and further investigations by other observers will, I believe, corroborate these findings. Of the 187 patients 113 (60 per cent.) are dead and thirty-four are in poor health, and only forty (21.4 per cent.) are reported as in their usual health. Of those who suffered from retinal apoplexy 45 per cent. are in good health, while in the cases of hemorrhagic retinitis but 24 per cent. of the patients are not either dead or afflicted with some grave disorder. Thirteen per cent. only of the patients with albuminuric retinitis are alive and well, and of the diabetic type there is none.

CONCLUSIONS

1. Three-quarters of all cases of hemorrhagic retinitis either terminate fatally within a few years or the patients suffer marked impairment of health.

One patient died of diphtheria during an epidemic, but was suffering from Bright's disease, and her life would in any event have been of short duration. One died of rheumatism, four from diabetes, and of the two who died of tuberculosis, one certainly did not have that disease when seen, but she died suddenly while returning from Europe and the cause of death was given as tuberculosis.

With these exceptions, all deaths have been due to some disorder of the nervous or circulatory system, and all cases of impaired health are ascribed to the same conditions.

2. The existence of any form of hemorrhagic retinitis is suggestive of present or future disease of either the nervous or circulatory system.

By reference to Table 5, it will be noticed that the average duration of life in albuminuric retinitis increases regularly with the age of the patients. An apparent exception is found between the ages of forty and fifty, but this is due to the fact that the two patients who lived ten and twelve years, respectively, were between these ages. If these are eliminated, the average duration is twelve months. The largest number of cases occur between the ages of forty and fifty.

3. The duration of life in albuminuric retinitis increases with the age of the patient and the younger the patient, the worse the prognosis in point of time.

There have been nine cases of albuminuric retinitis occurring in pregnancy, and of these, two of the patients are dead of acute uremia; one two weeks after parturition at term, the other at four months. Of the seven patients living all are in excellent health; three have passed subsequent pregnancies without recurrence, five have vision of 0.9, or better, and in two there is impaired vision.

When, in the etiology of any disease, reflex disturbance is given as a cause, it is usually synonymous with lack of accurate knowledge. My warrant for ascribing hemorrhagic retinitis to such a cause is found ~~in two~~ cases which I desire to report in detail.

Case 1. E. G., aged 36, a bank clerk, was first seen in 1898 with a myopia of one diopter, which, when corrected, gave him normal vision in each eye. January 28, 1903, he was again seen, and with the correcting glass his vision was 1.0 in each eye. February 2, while at the dentist's a drill perforated the root of a first bicuspid tooth on the right side of his jaw, and breaking, a portion was left in the tooth. Almost immediately there was a blurring of vision in the right eye, and on the following morning when I saw him there was an extensive retinal hemorrhage just above the macula, the vision being reduced to 2/50. The tooth was extracted and the broken tip of the drill was found protruding about ⅛ of an inch. The splash of hemorrhage was soon surrounded by an area of edema, and several spots of exudation appeared in the macular region, which rapidly increased till they presented the appearance of finger-like projections extending into the vitreous, which waved back and forth with the motion of the globe. In June, of that year, this exudate had disappeared, leaving dirty yellow spots, but the vision was not improved. I did not see him again until June, 1906, when to my surprise the vision was again normal. The retina had resumed its normal appearance, save that one of the ascending arteries was obliterated for about two diameters, and a collateral circulation had been established.

This patient was seen in consultation by Dr. Hasket Derby, of Boston, and he expressed his opinion that the retinitis was a reflex disturbance.

A pertinent fact in connection with this case was that an indemnity on an accident insurance policy was denied on the ground that it was not accidental.

Case 2. In 1905, I saw Miss E. J., aged 40, who noticed on the day following a visit to the dentist that the vision of one eye was blurred. She had been having a nerve killed and had suffered a good deal of pain at the time, but did not ascribe her loss of vision to anything connected with her tooth. She presented numerous splashes of hemorrhage in the retina of the right eye, and with the memory of the first case in my mind, I spoke of the possibility of a similar condition. She immediately consulted her dentist, who assured her that there was no possibility of such an accident, but on the third day she insisted on having the tooth extracted, and, with the dentist, visited my office, bringing the offending molar. It showed no evidence of having been injured, but to make assurance more sure, I made a section of the tooth in the axis of the dental canal and found in it a broken piece of steel broach, a quarter of an inch long. The retinitis resulting subsided in about three months, leaving normal vision.

These two cases can hardly be ascribed to a coincidence.

The following case illustrates the point I desire to make.

Case 3. A. B., aged 40, unmarried, was referred to me on account of severe headaches. There was no history of specific infection, the previous condition of health was excellent, and his physician, failing to find an adequate cause for the headaches, as usual ascribed it to the eyes. He had several spots of retinal hemorrhage evidently of recent occurrence, but no impairment of vision. He was referred to his home physician for a urinalysis and I did not again see him for several weeks, when he reappeared with greatly diminished vision and an active neuroretinitis of each eye. He said that no trouble had been found with his urine and that his physician had, in the absence of other symptoms, given him potassium iodid in 5-grain doses, which he had been taking since I first saw him. Evidently cerebral disturbance was present, and a letter was given him to deliver to his physician, stating my opinion that the trouble was due to a cerebral tumor and that the prognosis was bad. He died on the way home while on the train and the letter was taken from his pocket by the medical examiner called to the case.

If there had been an appreciation of the gravity of this case and more attention given to its possibilities

I have endeavored to show by these statistics that all types of hemorrhagic retinitis are of serious import; that even retinal apoplexy is significant of impending danger, while simple retinitis with hemorrhage has a mortality largely in excess of that commonly ascribed to it. I have made no study of the pathology, and make no suggestion for treatment, except to urge that attention be given to the future of the patient and not to the present.

117 Broad Street.

[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

CULTIVATION OF PATHOGENIC TREPONEMA PALLIDUM [*]

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Although several investigators (Scherschewsky, Mühlens and Hoffmann) have secured cultures of certain spirochetes, no one has yet been able to establish them as being undoubted examples of *Treponema pallidum* (*Spirochæta pallida*). In some instances, the morphologic features of the organisms in the cultures were identical with those present in syphilitic lesions in man, yet they never caused lesions when inoculated into animals. In two exceptional instances, Bruckner and Galasesco, in 1910, and Sowade, in 1911, reported that they had succeeded in reproducing syphilitic lesions in the rabbit by the injection of "impure cultures." But as these "cultures" still contained the original syphilitic tissue used for inoculation, and as a second growth (generation) of the spirochetes could not be obtained, it remained an open question whether the lesions were due actually to the cultivated spirochetes or whether they were simply produced by the original spirochetes that had survived.

METHOD OF CULTIVATION

All previous investigators used human syphilitic tissues for the cultivations. I have employed only the spirochete-containing testicular tissue of the rabbit. As is well known, this tissue, at the height of the lesions, contains innumerable motile spirochetes. The rabbit material is available at all times and tends, when continuous passages have been effected, to contain relatively few common bacteria. Up to the present time, I have employed ten different strains of *Spirochæta pallida*, all of which have been passed through the rabbit. Of these, six strains have been passed through successive series of cultures.

The only suitable culture-medium which I have thus far found is serum-water (sheep, horse, rabbit) to which a piece of sterile rabbit tissue is added. I have preferred the kidney or testicle. The liver is less suitable, first, because it often contains bacteria, and, second, because of the large quantity of carbohydrate which in the presence of the common bacteria yields a large amount of acid. Test-tubes 20 cm. high and 1.5 cm. wide are chosen into which 16 c.c. of the serum-water are introduced. After sterilization at 100 C. for three successive days, a small piece of the freshly removed organ is added. The tubes, having been incubated at 37 C. for two days, are, if sterile, ready for use. A layer of paraffin oil is poured into each tube to shield the medium from the air and to prevent evaporation. In order to obtain the first growths of the spirochetes, no agar or gelatin should be added to the medium; later generations can, however, be secured in a solid medium. At first, strict anaerobiosis is required, but later this strictness is not essential. Indeed, certain strains of *Spirochæta pallida* grow in later generations in a deep serum agar culture in which the tissue is placed at the bottom which is merely covered with paraffin oil. In no case did any of the strains grow in the absence of tissue. In this respect they differ greatly from those described by Mühlens and Hoffmann, which grew readily not only in the absence of tissue but even of serum.

In almost all the first growths, the spirochetes are mingled with bacteria. As the *Spirochætæ pallidæ* do not grow at this time in solid media, purification is difficult. I have obtained this by permitting the spirochetes to grow through Berkefeld filters that hold back the ordinary bacteria for a longer period. This is accomplished after about the fifth day. Or the strains which, after a time, begin to grow in solid media may be separated from the bacteria by reason of the fact that while the latter remain confined to the stab-canal, the former penetrate, as a slight haze, into the surrounding medium, from which they can be removed in a pure state. Thus cultivated, the morphology is correct for the *Spirochæta pallida*, and motility is retained for some weeks. As would be expected from the conditions of growth, special arrangements and groupings of the spirochetes occur in the cultures.

PATHOGENICITY

Two strains of the *Spirochæta pallida* in pure culture have thus far been tested for pathogenicity by inoculation into the testicle of rabbits, and both have set up the typical lesions. The first strain was cultivated in October, 1910, the second in March, 1911. The aspirated fluid, taken during life, showed innumerable spirochetes which, viewed under the dark-field microscope or after Giemsa staining, presented the characteristic qualities of *Treponema pallidum*. The testicular tissue, stained with the usual histologic dyes or impregnated with silver salts by Levaditi's method, showed the usual cellular infiltration and countless spirochetes, precisely as after successful inoculation with syphilitic material from human beings.

CONCLUSION

It may be affirmed that *Treponema pallidum* has been made to grow in pure culture and that the cultures possess the usual pathogenicity for the rabbit.

It may be further stated that the testicular lesions produced in the rabbit by means of pure cultures of the *Spirochæta pallida* are identical with those set up by syphilitic materials, from which it follows that the cause of the syphilitic lesions in man, as of the testicular lesions in the rabbit, is *Treponema pallidum*.

The method will be described in detail in a forthcoming number of the *Journal of Experimental Medicine.*

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[*] From the Laboratories of the Rockefeller Institute for Medical Research

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So-Called Thyroid Carcinoma of Brook Trout.—There is no stage of thyroid hyperplasia in brook trout that may be classified biologically as carcinoma. The incidence of true carcinoma in fish goiter is not greater than in mammalian goiter. Goiter is endemic in all hatcheries where the *salmonidæ* are artificially reared. Its severity is quantitatively related to the general hygienic conditions prevailing, and to the food, water-supply and degree of crowding. The immediate cause of goiter is unknown, but it depends in all probability on a disproportion in, or a lack of, certain of the elements necessary for proper nutrition.—D. Marine and C. H. Lenhart, in *Journal of Experimental Medicine.*

EXPERIMENTAL STUDY OF ANAPHYLAXIS IN CARCINOMA *

PRELIMINARY REPORT

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CINCINNATI

This series of experiments was undertaken to show the difference, if any exists, between the blood of normal individuals and those suffering from carcinoma.[1] To demonstrate this the anaphylactic reaction was employed.

Young guinea-pigs were used in the three experiments. Each pig, sensitized with blood-serum of a carcinomatous individual, had as a control pig of like weight, sensitized with normal blood-serum. At the height of the sensitization period—ten to fourteen days—each pig, cancer and control, received a large dose of serum from a cancerous individual.

REPORTS OF EXPERIMENTS

Experiment 1.—February 9: Serum A was obtained from vein of normal male adult, aged 40; Serum B, from a negro woman, suffering from a non-ulcerating carcinoma of the breast, with slight involvement of the axillary glands, the diagnosis having been confirmed by the microscope. Serums A and B were each diluted 1:50 with normal salt solution.

February 10: Guinea-pigs were inoculated intraperitoneally, the control set with serum A, the carcinoma set with serum B, in amounts varying from 0.01 to 0.5 c.c. The pigs were kept in pairs, A of each pair inoculated with normal serum, B with carcinoma serum.

February 22: The blood was obtained by venesection from a male, aged 62, with recurrent epithelioma of inside of mouth and glandular metastases of the neck; diagnosis confirmed by microscopic examination.

February 23: Five c.c. of the serum were injected into the abdominal cavity of each of the twelve pigs of both the carcinoma and normal sets.

The results of Experiment 1 are detailed in Table 1.

TABLE 1.—EXPERIMENT 1

Results of Inoculations of Guinea-Pigs with Cancer Serum After Sensitization with Normal Blood-Serum and with Carcinoma-Serum

Pigs A, sensitized with normal serum February 10; inoculated with 5 c.c. cancer serum February 22.

	Sensitizing Dose (c.c.).	Time Within Which Symptoms Appeared (min.).	Symptoms.	Duration of Symptoms (hrs.).	Result.
1	0.01	10	Twitching and dyspnea.	1 2/3	Recovery.
2	0.02	10	Twitching, convulsive movements and dyspnea.	2	Recovery.
3	0.04	..	No symptoms.		
4	0.1	10	Twitching, dyspnea, convulsions.	3	Death.
5	0.2	10	Convulsions.	2	Death.
6	0.5	..	No symptoms.		

Pigs B, sensitized with cancer serum February 10; inoculated with 5 c.c. cancer serum February 22.

	Sensitizing Dose (c.c.).	Time Within Which Symptoms Appeared (min.).	Symptoms.	Duration of Symptoms (hrs.).	Result.
1	0.01	15	Slight writhing.	...	Recovery.
2	0.02	20	Drowsy lying on side.	2/3	Recovery.
3	0.04	..	No symptoms.		
4	0.1	10	Slight twitching.	*	Recovery.
5	0.2	10	Drowsy lying on side.	1/2	Recovery
6	0.5	..	No symptoms.		

* Short duration.

The symptoms when present were typically those of anaphylaxis; that is, appearing promptly and consisting of twitching, dyspnea and convulsions, and at times followed by death. It will be noted that in two pairs of pigs, Pair 3 sensitized with 0.04 and Pair 6 sensitized with 0.5 c.c., no symptoms whatever occurred in either Pigs A or B. It is particularly to be noted that the symptoms were far more pronounced in Pigs A, sensitized with normal serum, than in Pigs B sensitized with carcinoma serum; this difference being marked in each of the four remaining pairs. In detail:

Pair 1.—Sensitized with 0.01 c.c. A: Appearance of symptoms ten minutes, twitching, labored breathing and convulsions lasting one hour and forty minutes, ending in recovery. B: No symptoms.

Pair 2.—Sensitized with 0.02 c.c. A: Appearance of symptoms ten minutes, twitching, labored breathing and convulsions lasting two hours, ending in recovery. B: Appearance of symptoms fifteen minutes; merely slight drowsiness, lasting one hour, ending in recovery.

Pair 4.—Sensitized with 0.1 c.c. A: Appearance of symptoms ten minutes, followed by twitching, labored breathing and convulsions, ending in death in two hours. B: But a short period of restlessness, ending in recovery.

Pair 5.—Sensitized with 0.2 c.c. A: Symptoms appeared in ten minutes; convulsions, dyspnea and death in two hours. B: Short period of drowsiness, ending in recovery in one hour.

To sum up this experiment, four of the six pairs of pigs showed symptoms of anaphylaxis and in each pair the symptoms were far more pronounced in Pigs A; sensitized with normal serum, than in Pigs B, sensitized with carcinoma serum. All of Pigs B recovered, while two Pigs A died. It must be noted, too, that in this experiment the sensitizing carcinoma serum was obtained from a comparatively localized carcinoma.

Experiment 2.—April 24: Normal Serum A was obtained from a woman, aged 38.

Serum B was obtained from female, aged 40; recurrent carcinoma of uterus; diagnosis confirmed by microscopic examination.

April 25: In the same manner as in Experiment 1, guinea-pigs were inoculated intraperitoneally with Serum A and B, in amounts varying from 0.01 to 0.5 c.c. The pigs were kept in six pairs, as in Experiment 1, A of each pair inoculated with serum from a normal individual, B from the patient suffering from carcinoma.

May 4: Serum was obtained by tapping of ascitic fluid of a woman suffering from an advanced case of pelvic carcinoma; diagnosis confirmed by microscope.

May 5: Ten c.c. of the fluid were injected intraperitoneally into each pig, both A and B, and the results tabulated in Table 2. In the entire series of twelve pigs, each showed anaphylactic symptoms of more or less severity.

TABLE 2.—EXPERIMENT 2

Results of Inoculations of Guinea-Pigs with Cancerous Ascitic Fluid After Sensitization with Normal Blood-Serum and with Cancer Serum

Pigs A, sensitized with normal serum April 24; inoculated with 10 c.c. of cancerous ascitic fluid May 5.

	Weight.	Sensitizing Dose (c.c.).	Time Within Which Symptoms Appeared (min.).	Symptoms.	Duration of Symptoms (hrs.).	Result.
1	300	0.01	10	Twitching; restless.	1/3	Recovery.
2	250	0.02	5	Tremor.	1/4	Recovery.
3	260	0.04	6	Convulsions.	1	Recovery.
4	230	0.1	6	Convulsions.	3	Death.
5	250	0.2	4	Convulsions.	4	Death.
6	Died before inoculation.					

Pigs B, sensitized with cancer serum April 24; inoculated with 10 c.c. cancerous ascitic fluid May 5.

	Weight.	Sensitizing Dose (c.c.).	Time Within Which Symptoms Appeared (min.).	Symptoms.	Duration of Symptoms (hrs.).	Result.
1	275	0.01	10	Twitching; restless.	1/3	Recovery.
2	200	0.02	5	Tremor.	1/3	Recovery.
3	275	0.04	8	Slight tremor.	1/4	Recovery.
4	210	0.1	10	Slight tremor.	1/6	Recovery.
5	250	0.2	10	Slight tremor.	1/4	Recovery.
6	210	0.4	15	Slight tremor.	1/4	Recovery.

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* From the Cincinnati Hospital Laboratory.

* Read before Cincinnati Research Society, June 1, 1911.

[1] During the past few months articles on anaphylaxis in cancer by Maragliano, Isayo and Connell have appeared, without, however, recording positive results.

In the first two pairs sensitized, respectively, with 0.01 and 0.2 c.c., there were evanescent symptoms alike both in A and B, consisting merely of twitching and restlessness, beginning in five or ten minutes and lasting fifteen to twenty minutes. The animals suffered no permanent ill effects. In the remaining four pairs a different picture was presented. In each pair A, inoculated with normal serum, presented severe symptoms; in two instances death followed, while pigs B suffered scarcely any symptoms at all.

Pair 3.—Sensitized with 0.04 c.c. A: convulsions and dyspnea began in six minutes, lasted one hour, ending in recovery. B: Slight tremor lasting eight minutes, ending in recovery.

Pair 4.—Sensitized with 0.1 c.c. A: Symptoms began in six minutes, dyspnea and convulsions, ending in death in three hours. B: Symptoms began in ten minutes, slight tremor, ending in recovery in fifteen minutes.

Pair 5.—Sensitized with 0.2 c.c. A: Symptoms began in four minutes; dyspnea, spasms and convulsions, ending in death in four hours. B: Slight tremor of twenty-five minutes' duration, ending in recovery.

Pair 6.—Sensitized with 0.5 c.c. A: Death several days before inoculation. B: But slight tremor. In normal control pig, but slight tremor.

Experiment 1 was witnessed by Drs. Wherry, Friedlander and Newburg.

Experiment 2 was witnessed by Drs. Wherry and Brown.

The results of Experiment 3 were entirely unlike those of Experiments 1 and 2, and at the present state of investigation cannot satisfactorily be explained.

Experiment 3.—May 7: Serum A from normal adult male; Serum B from female, aged 60; extensive carcinoma of abdomen; confirmed by microscopic examination.

Twelve pigs were used and kept in pairs as before. Each pair was sensitized with 0.2 c.c., A of normal serum, B of carcinoma serum.

May 20: Serum was obtained by venesection from a male, aged 60; advanced carcinoma of pharynx; diagnosis not confirmed by microscope. Each pair of pigs was injected intraperitoneally with the serum in varying doses. Pair 1, 1 c.c.; Pair 2, 2 c.c.; Pair 3, 4 c.c.; Pair 4, 6 c.c.; Pair 5, 8 c.c.; Pair 6, 10 c.c. For the first few moments after injection it seemed as though Pigs A and B of Pairs 2, 3, 4 and 5 showed symptoms of restlessness. These, however, were of short duration and no pig of the entire series, either A or B, showed the slightest anaphylactic symptom. Both pigs of pairs 4, 5 and 6 died in the course of two hours with symptoms of poisoning, showing, however, neither tremor nor convulsions.

It is impossible to say why no anaphylactic symptoms occurred. It seems likely, however, that some deterioration of the serum may have taken place which disturbed its peculiar properties. The day was unusually hot and the serum was brought from the Jewish to the Cincinnati Hospital, after which it was necessary to centrifuge it at room temperature. Experiment 3 may for the present be disregarded and conclusions drawn from Experiments 1 and 2.

As is well known, anaphylaxis and immunity are so closely related that it is almost impossible to dissociate them. The delicacy of the anaphylactic reaction may be appreciated when it is seen that a pig may be sensitized by the injection of 0.01 c.c.

Judging from Experiments 1 and 2, there seems to be a tangible difference between the serum of normal individuals and those suffering from carcinoma. At first glance it would seem that the symptoms should have been reversed; that is, the animal sensitized with carcinoma serum should show more marked symptoms than those sensitized with normal blood-serum, when both were given a final large dose of carcinoma serum. Here appears the close correlation between anaphylaxis and immunity. Both pig A and pig B were sensitized to human blood-serum, whether carcinoma or normal. So that, when injected with carcinoma serum, they both showed anaphylaxis. But it is probable that pigs B sensitized with carcinoma serum were at the same time immunized to the action of that serum; so that when the final dose was given, they showed comparatively mild symptoms.

CONCLUSIONS

These experiments may develop into an aid to early diagnosis of carcinoma. This is particularly borne out by the fact that in Experiment 1, pigs B were sensitized with serum taken from a patient harboring a comparatively localized carcinoma of the breast with but slight glandular involvement. There seems, too, a possibility of work of this nature opening up a channel which may eventually lead to true cancer immunity and treatment by serum.

I desire to express my thanks to Dr. Wherry for his cooperation and advice.

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THE HEALING OF IRIDECTOMY WOUNDS AND ITS INFLUENCE ON GLAUCOMA*

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ST. LOUIS

Glaucoma in its different forms, being as yet but partially understood, must needs still arouse the interest and particular study of every student. It is not astonishing, therefore, that the literature on the subject has reached an enormous magnitude and that the theories evolved concerning the etiology as well as the cure of this many-sided disease are becoming increasingly numerous.

It is not the object of this paper to go over the whole question; I intend to confine myself to the question of the healing of the iris wounds after iridectomy and to see in what manner the iridectomy may exert a curative influence in the course of a glaucoma.

In 1874[1] I made a large number of experimental iridectomies on rabbits in order to study the manner in which iridectomy wounds heal. I was aware then and am now that we cannot unhesitatingly apply experimental results obtained on animals' eyes to the human eye. Yet, in this particular case and in general in the healing of wounds, my histologic studies have shown no marked difference between the eye of a rabbit and that of man.

The normal healing of the wound in an iris which was healthy and which was not infected during the operation, according to my experiments, gave results as follows:

After the fibrinous coagulum containing erythrocytes, which in the first few days covers the iris wound, has been cast off or absorbed, the stump of the iris, in the microscopic section, appears in most cases swollen and knob-like, or at least rounded off; in others the wound edge is slanting obliquely with the more or less sharply pointed margin forward toward the anterior chamber or backward toward the posterior chamber.

The rounded-off or knob-like end of the stump after a few days, even, no longer presents a wounded surface. Its posterior part is covered with pigment epithelium, its anterior one with endothelial cells. Sometimes the cells of one of the two surfaces predominate. Where the cells of both iris surfaces meet on the stump, they are often bent hook-like into the former wound, apparently drawn inward into the stroma of the iris by the retraction of its tissue. The cellular proliferation and the infiltration which follow the operation disappear in a few days.

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* *Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.*

[1] Anatomic Changes Following Iridectomy, Arch. Ophth., iv, 423.

When the iris has been cut obliquely, the sharp-angled flap is gradually bent back toward the obtuse one and thus the wound is closed after from six to eight days, and the stump is covered either with endothelium or with pigment epithelium according to the side the flap was on.

The first manner of healing of the iris stump may be called healing *per primam intentionem*, the second manner *per secundam intentionem*.

It appeared clear that the manner of healing depended on the direction of the cut made by the scissors, which, in the former produced two more or less equal flaps, which promptly collapsing closed the gap, while in the other case only one, either an anterior or a posterior flap, resulted, which by the contraction of the iris tissue was gradually bent over either backward or forward and thus the wound surface became closed. Figures 1 and 2 are from photographs of some specimens made at the time of these experiments.

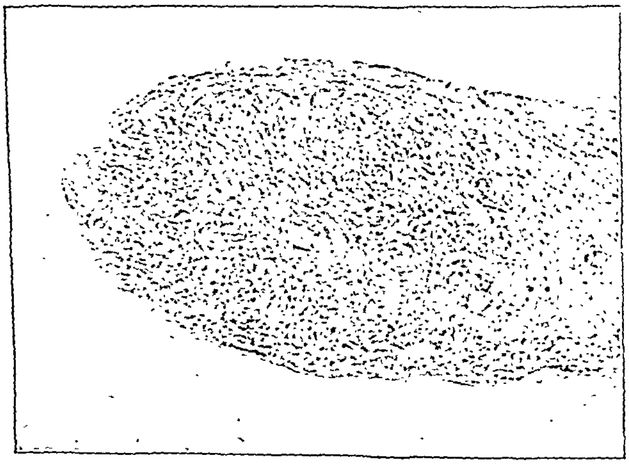

Fig. 1.—The stump of the iris from a white rabbit four days after the operation healed *per primam*. Stained with carmin.

Among the many microscopic sections made of these series of rabbits' eyes on which I had performed an iridectomy, when no complications interfered, the healing and covering over of the wound surface invariably took place in from a few hours to about eight days after the operation had been performed.

Through the kindness of the late Prof. Otto Becker, I was given an opportunity to examine a number of specimens from human eyes on which an iridectomy had been performed and, comparing these with my rabbits' specimens, we came to the conclusion that the manner of healing was very much the same in man as in the rabbit.

Ever since, I have carefully examined the few human eyes that I could obtain on which an iridectomy had been performed. Their number is not very large, and except in eyes on which a combined cataract extraction had been performed, the iris was probably diseased in every one before the iridectomy was made. The eyes from which a cataract had been extracted were enucleated on account of panophthalmitis and, therefore, also yielded no sections with a healthy iris. However, when the iris stump was not entangled in the wound or in an older cicatrix the conditions were not unlike those described above in the rabbit.

Yet I have seen a few iris stumps in which the wound did not seem to have healed in exactly the same manner. In these sections, it was either prevented from closing in the manner described by a blood-clot or fibrinous material at the time I examined it, or, in a number of eyes which had been operated on a long time previously, it was possible to demonstrate after all a thin layer made up of flat spindle cells coming from the anterior endothelium covered the apparently unclosed wound. There was in reality no raw surface.

The conditions of the wounds on the pillars of the coloboma were the same as at the base of the coloboma.

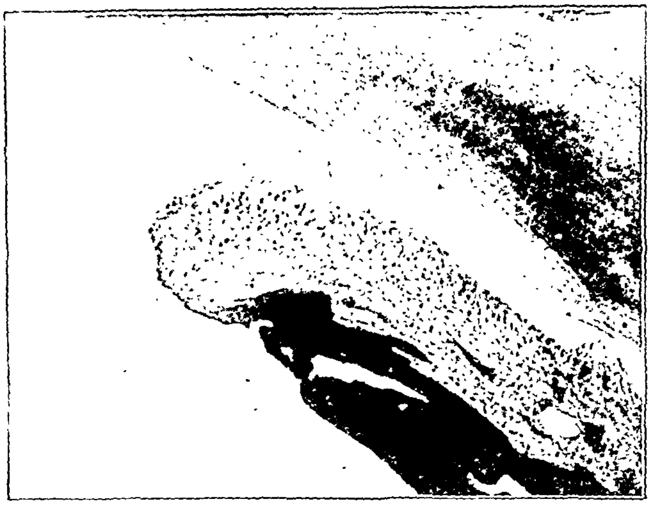

Fig. 2.—The stump of the iris from a dark rabbit eight days after operation, also healed *per primam*.

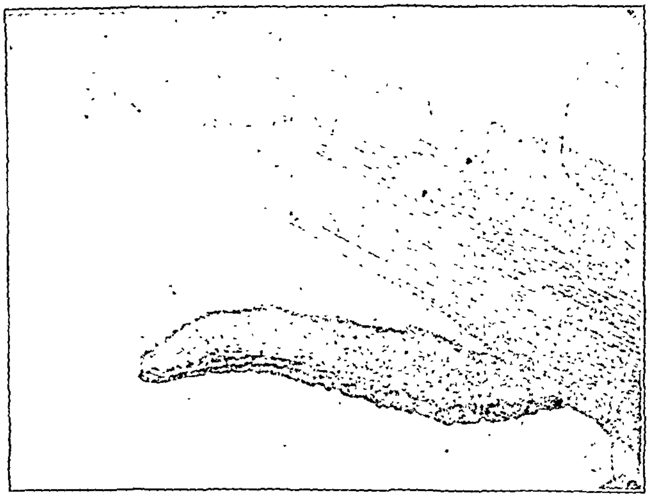

Fig. 3.—The wound of the iris stump is closing over, although the process does not seem quite accomplished. The pigment epithelium is slightly loosened from the iris tissue. This is probably a post-mortem occurrence. Primary union does not seem to have been quite accomplished in this case.

In a paper entitled, "A Histologic Study of the Normal Healing of Wounds after Cataract Extraction," Thomas Henderson[2] in his Figure 2, draws such a rounded-off iris stump, but does not refer to it in the text. From this drawing, it seems that the iris wound made during a combined extraction was healed, or healing in the manner here described, when the eye was removed twelve days after extraction. The paper is written to show that the iridectomy wounds resulting from a combined cataract extraction on a normal iris never heal.

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[2] Ophth. Rev., May, 1907

In a paper entitled, "The Histology of Iridectomy,"[3] the same author comes to the conclusion that "the severed iris tissue never shows any sign of scar, or other manifestation of reaction, for even years after the cut surface appears as if the operation had been performed post mortem."

In a recent book on glaucoma, Henderson[4] still further elaborates this same view and says: "The iris tissue forming the base and pillars of the coloboma always remains an open, raw, unhealed area, in free and open communication with the aqueous of the anterior chamber, in exactly the same manner as the crypt surfaces." The drawings in this chapter are repeated from the previous papers and refer to eyes on which a combined cataract extraction had been performed. Henderson bases his views on the effect of an iridectomy in glaucoma on the fact that iris wounds never heal.

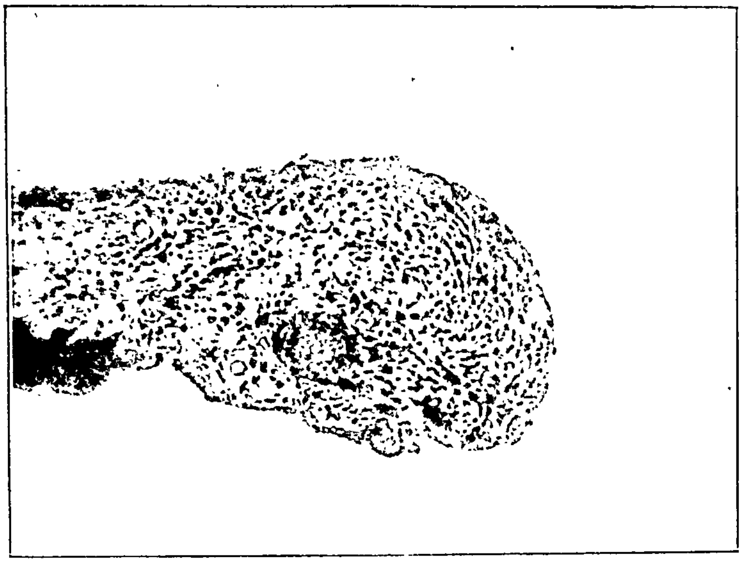

Figure 4

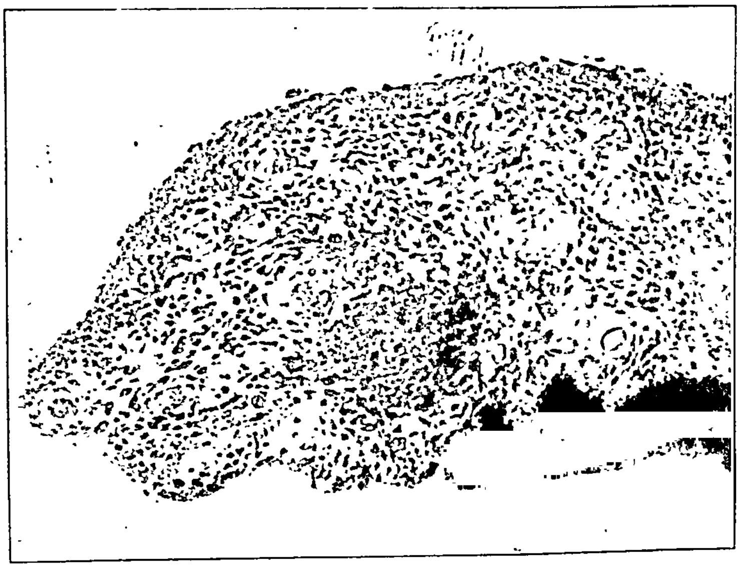

Figure 5

Figs. 4 and 5.—These illustrations give excellent examples of the primary union from an eye which was enucleated eight days after an iridectomy had been performed. In both of these figures there were apparently two flaps, an anterior one and a posterior one, the anterior one being the thicker, at least in Figure 5. The flaps have almost healed together and the line of contact can still be recognized by several rows of cells. The endothelium of the anterior surface seems to be creeping over the small gap. The pigment epithelium has for some distance fallen off, a condition which may be due to handling post mortem. The tissues are considerably infiltrated with round cells.

These results of Henderson's researches prompted me to study again all the specimens from human eyes in my collection which might have some bearing on this interesting question, the more so since, if Henderson's observations were correct, the effect of an iridectomy on the course of glaucoma could be more easily understood.

I was rather astonished to find that in almost all my human specimens of iridectomy stumps the iris tissue showed decided signs of inflammation; yet, since all came from eyes which it had been necessary to enucleate, this was, after all, quite natural, even in the sections from an eye which, after having been operated on previously by iridectomy, had been removed on account of a chorioidal sarcoma.

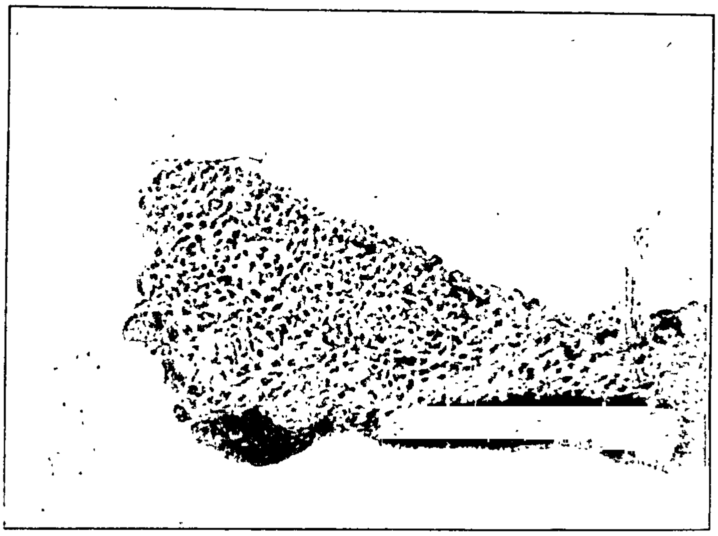

Fig. 6.—The stump is several weeks old and, although peculiar in its rather square than rounded-off outline, it seems to have healed by first intention. The posterior flap is covered by an interrupted pigment layer (post mortem); the anterior flap, also, does not seem to possess a continuous endothelial covering, yet there is no bare, raw surface.

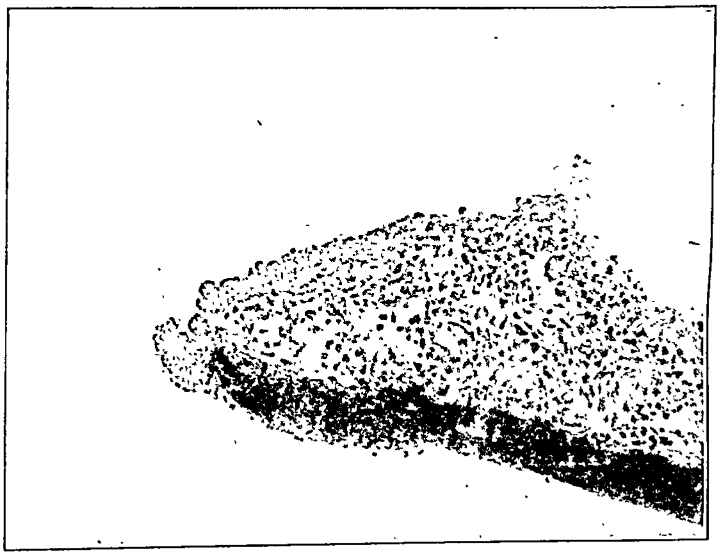

Fig. 7.—The stump has been cut off very obliquely. The larger part of the wound is covered with endothelium; the pigment layer reaches forward over the sharp angle to a small distance to where the two layers meet. The flap has evidently not been bent over the wound surface, as in other cases.

The illustrations in Figures 3 to 18 reproduce some of the characteristic sections.

Similar pictures from glaucomatous eyes with a healed stump are given by Henderson, who in this connection states that "when a stimulus is supplied by toxic or other agents cicatrization and sclerosis of the iris tissue follows in the same manner and governed by the same principles as elsewhere in the body."

According to this author, therefore, iridectomy wounds or other wounds made in the iris tissue when this is in a normal condition are never closed; such a closure takes place only when the iris has been previously diseased, as shown by atrophy and sclerosis, or becomes so, for instance, by infection during the operation. That is, according to his views, the healthy tissue of the iris, although provided with numerous blood-vessels in an active and functioning state, shows no reaction after being wounded, while the sclerosed and atrophied iris, as found in chronic glaucoma, seals up its wounds.

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[3] Ophth. Rev., July, 1907.
[4] Henderson: Glaucoma, London, 1910, E. Arnold, p. 187.

In 1896[5] I had occasion to describe an eye with iridodialysis and cyclodialysis in which I said:

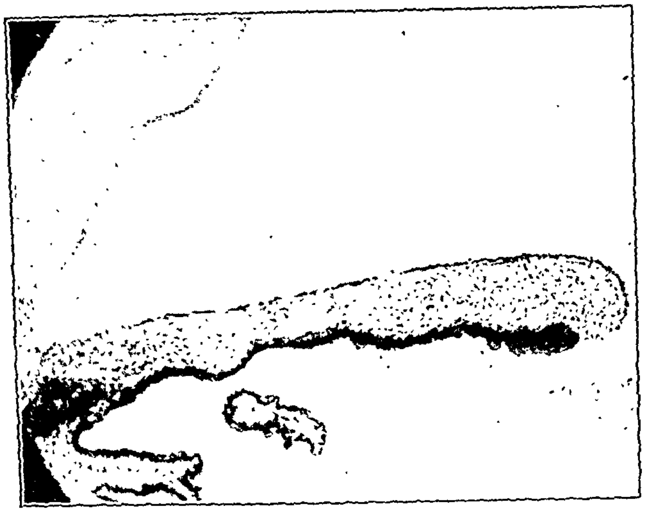

Figure 8

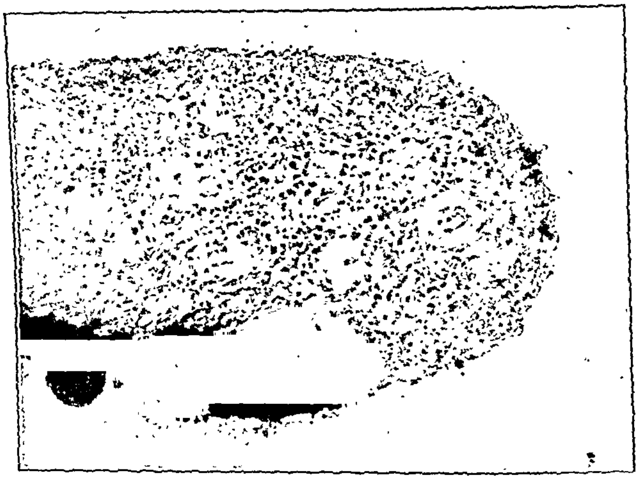

Figure 9

Figs. 8 and 9.—There seems to have been a long anterior flap which has, so to speak, fallen backward toward the *pigment epithelium* and thus closed the gap of the wound. The resulting round stump is perfectly covered over by anterior endothelium.

The detached iris tissue, besides being considerably contracted toward the sphincter edge, is atrophic, and contains a large quantity of blood-pigment and of uveal pigment, which is partly enclosed in cells, partly free. The walls of its blood-vessels are considerably thickened. The uveal layer is very thick, wrinkled and folded backward. The sections *do not* show any union of what may be termed the anterior and posterior flap of the tear, as I have seen it many times after an iridectomy or injury to the iris, etc. In this specimen there is simply a ragged edge.

From the foregoing, it seems certain that iridectomy wounds heal and are closed up permanently whenever the iris tissue is not normal. Henderson seems to agree with this statement. When the iris is normal they also

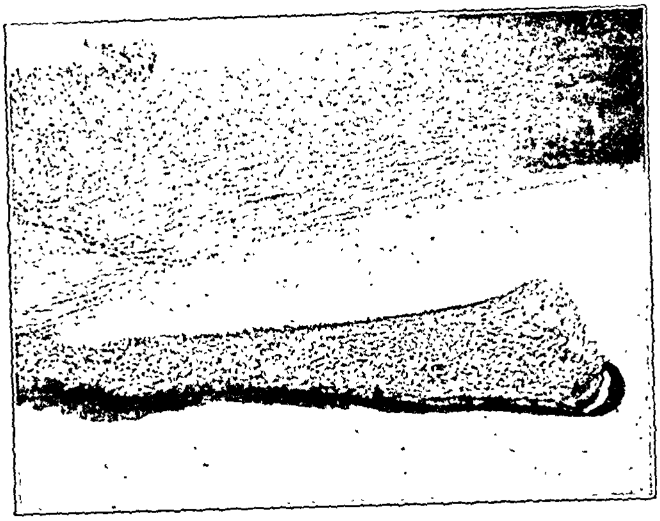

Figure 10

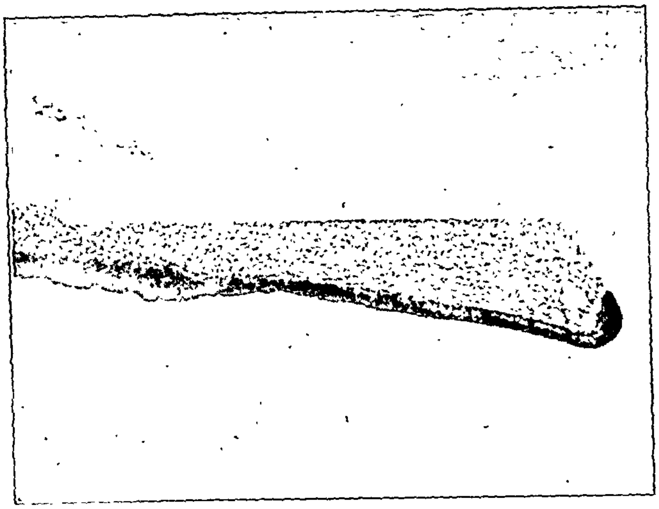

Figure 11

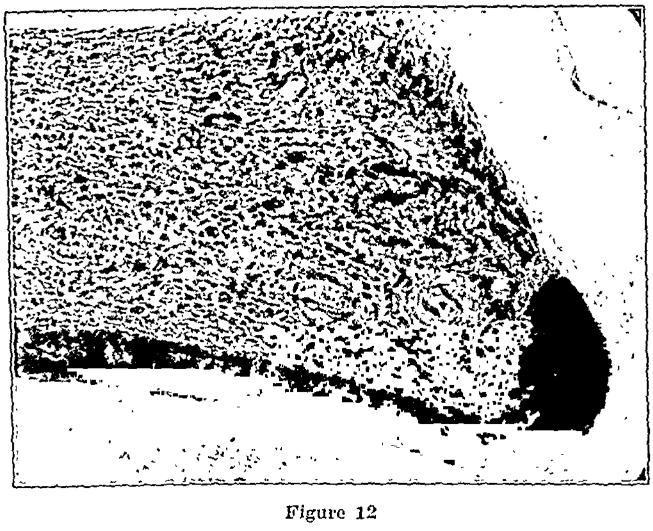

Figure 12

Figs. 10, 11 and 12.—The posterior flap seems to have been the longer one. The wound surface is perfectly covered over, the pigment epithelium reaching forward to quite a *distance* on the stump. A newly formed endothelial membrane *covers the* anterior surface of the whole iris, as well as the stump. This membrane, which is never wanting in older cases *and* is present in most quite recent cases of glaucoma, and which is the *cause* of the ectropium uveæ, which is also found as a rule in *glaucomatous* eyes, in these specimens seems to have pulled the pigment epithelium forward. The peculiar loosening of the pigment *epithelium* layer from its contact with the posterior surface of the iris may be *the consequence* of such a pull; it may also be that *this patient suffered* from diabetes, in which such a condition of the pigment epithelium seems the rule.

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[5] Am. Jour. Ophth., October, 1896, p. 296.

heal in the rabbit and have been seen to have healed in the human eye.

If a pathologic condition of the iris tissue is the *sine qua non* for the healing of the iridectomy wound, we certainly should expect that the wound of an iridectomy performed on a glaucomatous eye, except, perhaps, in the very earliest beginning of the disease, is certain to heal, as the iris tissue is never in a normal state. In such early stages the eyes are but seldom operated on. On the other hand, all observers are agreed that the earlier an iridectomy is performed, the better the result. Yet, while this is accepted as a general rule, chronic simple glaucoma is excepted from it, and for this form of glaucoma numerous substitutes for iridectomy have been invented and are being practiced with more or less success.

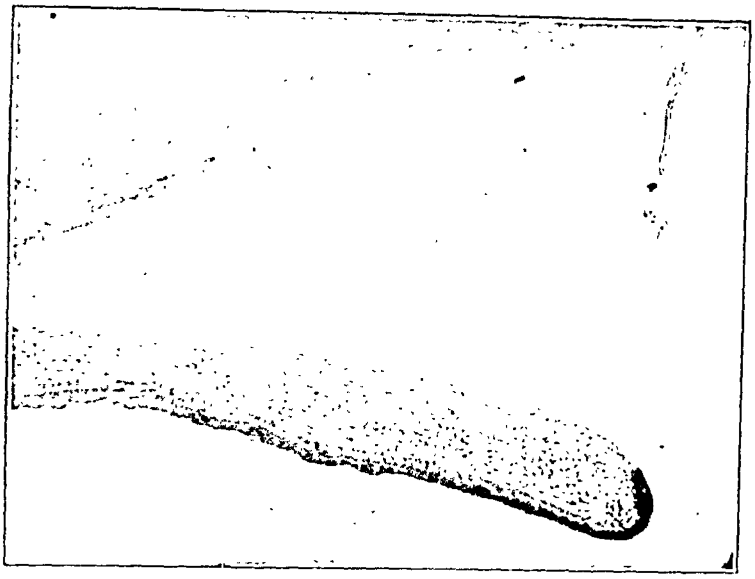

Figure 13

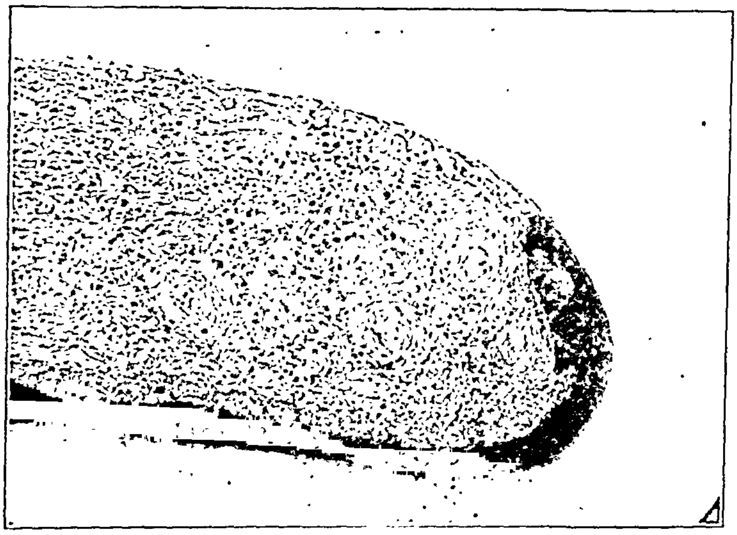

Figure 14

Figs. 13 and 14.—This shows a similar condition to that shown in Figs. 10, 11 and 12. The specimen is from another glaucomatous eye with an iridectomy stump of older date. There is less infiltration in the tissue of this stump than in the foregoing ones. It is almost altogether covered with pigment epithelium. The whole anterior surface of the iris and the stump is covered with an endothelial membrane.

How an iridectomy succeeds in reducing the abnormal intra-ocular pressure and in curing glaucoma, is a question which undoubtedly has agitated the mind of every thinking ophthalmologist since von Graefe first recommended this operation.

There are so many theories concerning the etiology of glaucoma that it would lead too far to enumerate them in this paper, especially since they are all well known. It seems altogether impossible to reach a definite conclusion. Only one thing seems to become more and more certain—that is, that a pathologic process in the general, perhaps, but surely in the intra-ocular blood-vessels is directly responsible for the glaucomatous state.

In a general way, more fluid must be secreted into the eye-ball than can be carried away, or the nature of the intra-ocular fluids must be so altered that their consistency does not allow them to leave the eye through the preformed channels, even if the latter were normal; or, finally, the means of egress, even with a normal formation of intra-ocular fluids, must become closed by some pathologic process, in order to produce an increase of intra-ocular tension.

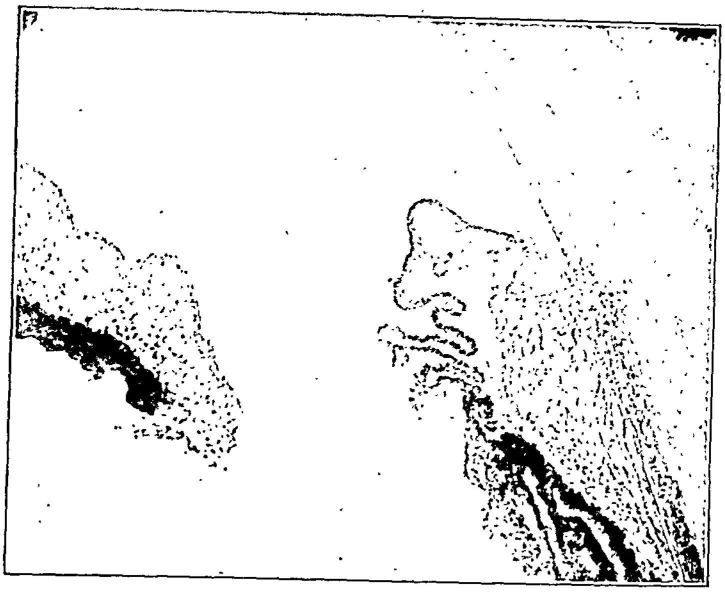

Fig. 15.—This shows the torn edge of the iris which has apparently not healed over. The section is from the center of the iridodialysis where, all blood-vessels being torn, no reaction seems to have followed the injury.

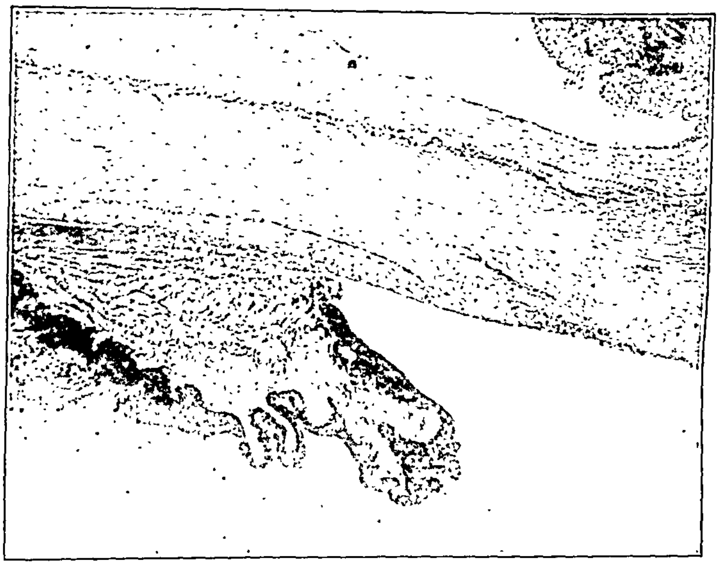

Fig. 16.—This gives a better view of the cyclodialysis associated with the iridodialysis in this eye. The ciliary body is drawn backward from its insertion on the corneoscleral tissue. The little stump made up of the tendon of the ciliary muscle and some iris tissue is well healed over. In this same eye at the time of the injury a further wound was caused in the sphincter edge of the iris, very similar to what an iridectomy might cause at the base of the coloboma. See Figures 17 and 18.

If we still believe that the iris angle is preeminently the place of exit for the fluids from the eye, and I confess to a firm adhesion to this opinion, we must, also, see the main cause of the glaucomatous state in a blocking up of this angle, whether this be due to a mere application of the iris periphery to the ligamentum pectinatum by swelling or pressure from behind, or to a true and firm adhesion between iris and ligamentum pectinatum and later Descemet's membrane, or finally to a plugging of the meshes of the ligamentum pectinatum by cellular or other substances carried there, which on account of their size or on account of their consistency cannot pass out as the normal limpid fluids do.

What influence can an iridectomy exert on these conditions? The question is as difficult of solution as the one concerning the etiology of glaucoma.

Henderson accepts[4] the obstruction of the iris angle. Yet, in his explanation of the action of an iridectomy he adduces the unhealed iris wounds of the "normal iris" and says: "Iridectomy effects the formation, so to speak, of a large open crypt presenting three sides of a square, the raw surface of which allows of the free passage of the aqueous to the iris veins. The primary obstruction presented by the sclerosis of the cribriform ligament is thus counterbalanced, etc." Granted that this is true, what happens when the wound of the iris heals and then instead of a new large open crypt having been formed, the absorbing (?) surface is reduced by the amount of iris tissue removed by the iridectomy?

In another recent work J. Kuschel,[6] who believes that the increased pressure is due to sclerosis of the tissues and to an obstruction to the flow of the fluids from the vitreous body into the anterior cavities of the eye, states that the effect of the iridectomy is due with the greatest probability to a rupture in the zonule of Zinn and the anterior limiting layer of the vitreous body during the operation. This assumed rupture, in his opinion, relieves the tension in the vitreous body and the excision of a piece of iris renders a direct connection between the vitreous and aqueous bodies sufficient to allow the fluids to pass out from the vitreous body thereafter. Here, then, the iridectomy appears to be of secondary value only; the rupture of the zonule of Zinn and of the anterior limiting layer of the vitreous body are of prime importance. And yet it seems to be a well-established fact that a rupture of the zonule of Zinn with the consequent subluxation of the lens can give rise to a secondary glaucoma.

Since Lagrange's introduction of his sclerecto-iridectomy, several other methods of making a permanent hole in the sclerotic have been devised, all in the hope of adding to the benefits of an iridectomy that of a filtering scar. But the proof that the resulting scar, if it ever is, will remain a filtering one is wanting, and I am afraid will remain so. That the bulging of the tissue which covers the scleral opening adds still more to the room which the fluids of the eye can occupy is true, but what gives us a right to assume that the conjunctiva covering the hole allows any fluid to filter through? Does a staphyloma of the sclerotic, even if stretched to bursting, let any fluid pass through? I at least have never seen it, although I have examined staphylomata which were so thin that the cicatricial conjunctiva covering the scleral hole cannot be much thinner. And, if the scleral hole reestablishes filtration, why add an iridectomy? The value of the scleral hole, if it remains permanent and covered by a thin tissue layer only, seems to lie in the fact that this thin tissue is more elastic and can yield somewhat to an occasional rise of intra-ocular pressure.

From these and other considerations, and from the fact that iridectomy wounds in glaucomatous eyes do heal, as a rule, the beneficial effect of an iridectomy, it seems, must be due to some thing or things which happen when and while the operation is being performed. We know that in some cases the iridectomy does not reduce the intra-ocular pressure; in such cases this something evidently cannot or does not happen. We know that in some cases even a poorly made iridectomy cures a glaucoma, although the classic broad peripheral iridectomy is looked on as the only correct operation. We have all learned from experience that sclerotomy, much vaunted at one time, is inadequate for the relief of an established glaucoma. The value of the iridectomy with an incision in the corneoscleral margin—if not quite as peripheral, perhaps, as in sclerotomy—cannot, therefore, be due to this incision.

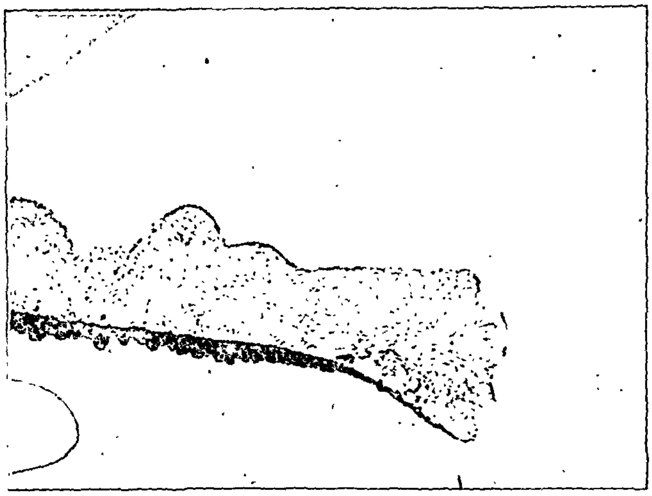

Figure 17

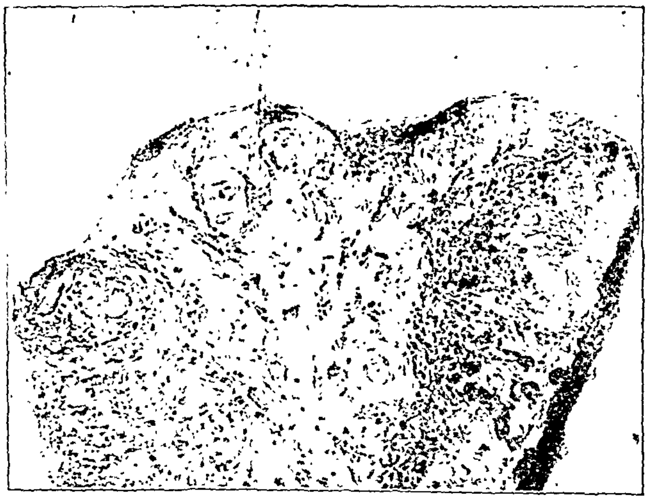

Figure 18

Figs. 17 and 18.—These illustrations show a wedge-shaped gap in the pupillary edge, apparently filled with a similar tissue, but less compact than the old iris tissue, and containing some blood-vessels. It appears, therefore, as if the two flaps formed by this peculiar rent had been united by a wedge of newly formed tissue. The surface of this scar is covered by a layer of anterior endothelium, which varies considerably in thickness.

Thus we come back to the probability that, after all, the excision of a piece of iris of sufficient size is the *main part* of a glaucoma operation. To this may be added a certain amount of reopening of the filtration angle, if only in parts, during the execution of the iridectomy, perhaps, by the direct pull on the iris by which a part of the peripheral iris adhesion may be loosened.

If this is the case, there seems to be only one solution to this question, and this is that the iridectomy, instead of opening up new filtration ways, as Henderson thinks, reduces in reality the secretion of fluids into the eye or alters their composition.

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[6] Der intraoculare Flüssigkeitsstrom in seinen Beziehungen zum biochemischen Aufbau des Auges unter gesunden Verhältnissen, beim Glaucom und bei der Kurzsichtigkeit, p. 123.

The conclusion thus arrived at through the study of the healing of iridectomy wounds is not only not new, but was the very explanation for the action of iridectomy on glaucoma offered by von Graefe himself. How the excision of a piece of iris, which does not seem to be a secreting membrane, does bring about this result, it is still impossible to say and must be left to future studies.

316 Metropolitan Building.

[THE DISCUSSION ON THIS PAPER WILL BE FOUND ON A LATER PAGE OF THIS ISSUE UNDER THE HEADING OF "SECTION DISCUSSIONS."]

TWO CASES OF CONGENITAL HYDRONEPHROSIS

DANIEL N. EISENDRATH, A.B., M.D.
CHICAGO

The two following cases occurred in my service in the surgical department of the Michael Reese Hospital, and are thought to be of sufficient interest to the profession in general to warrant their publication:

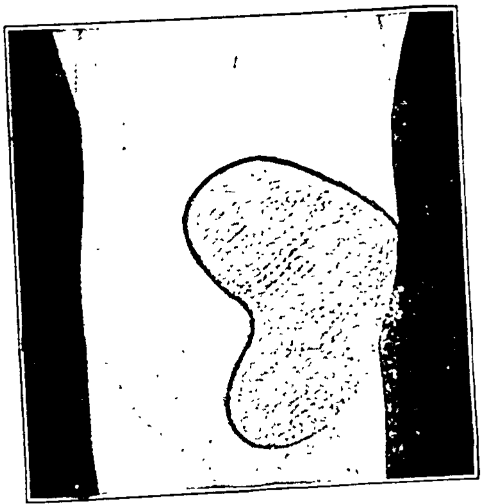

Fig. 1.—Front view of palpable, soft, elastic tumor in Case 2, a case of congenital hydronephrosis, before inflation of colon. There was a distinct notch to be felt at the middle of the tumor corresponding to the hilum of the kidney.

CASE 1.—*Congenital Hydronephrosis of a Horseshoe Kidney.*

History. — S. L., male, aged 6, was admitted to the pediatric department of the Michael Reese Hospital (service of Dr. I. A. Abt), July 20, 1908, with the following history (obtained from the father): The child had been healthy as an infant; had scarlet fever and measles at age of 5; present illness began suddenly about two weeks before admission with severe pain in the right side of the abdomen, accompanied by vomiting. The pain was quite well localized and did not radiate. This improved, but recurred about twenty-four hours before admission. The pain was quite severe, accompanied by frequent vomiting and fever. Examination on admission showed a well-nourished boy with heart and lungs negative. On the right side of the abdomen there was visible a distinct prominence, located a little above the level of the umbilicus. There was some rigidity of the overlying abdominal muscles and the mass was quite tender. One could distinctly follow the mass across the median line to the left. A sketch was made of the transverse nature of this mass but its interpretation was not possible before operation. The temperature during the first twenty-four hours varied between 98.6 and 100 F. The leukocyte count was 12,200; pulse 136. During the following three days the temperature was only slightly above normal. The child was transferred to my service on the fourth day, on account of its rapidly increasing septic condition. The leukocyte count on this fourth day rose rapidly from 11,900 to 17,000. From the position of the mass described above, the abdominal rigidity, leukocytosis and general condition, the diagnosis of appendicitis in a non-rotated appendix seemed the most probable one, and operative interference was decided on.

Operation.—An incision was made through the right rectus muscle over the most prominent portion of the mass. On opening the peritoneal cavity a small amount of serofibrinous fluid escaped. The appendix appeared normal and was located in its proper position in the right iliac fossa. It was now to be seen that the transverse mass felt through the abdominal wall was a horseshoe kidney, the right pole or end of which was converted into a translucent, thin-walled sac. One could feel the isthmus of renal parenchyma which passed across the median line and terminated in a similar enlargement of the left kidney, which, however, was considerably smaller than that of the right side. The surface of the right end of the hydronephrotic horseshoe kidney was so close to the abdominal incision that I deemed it advisable to suture the sac to the parietal peritoneum of the incision. On opening the kidney sac, a considerable quantity of straw-colored, clear, odorless fluid escaped. A drainage tube was inserted and the ordinary dressings applied. After discharging watery fluid for some days, the wound healed by granulation, the child being discharged Aug. 19, 1908 (four weeks after admission). Immediately after draining the right end of the horseshoe kidney, the septic condition of the child began to disappear, and the convalescence was uninterrupted.

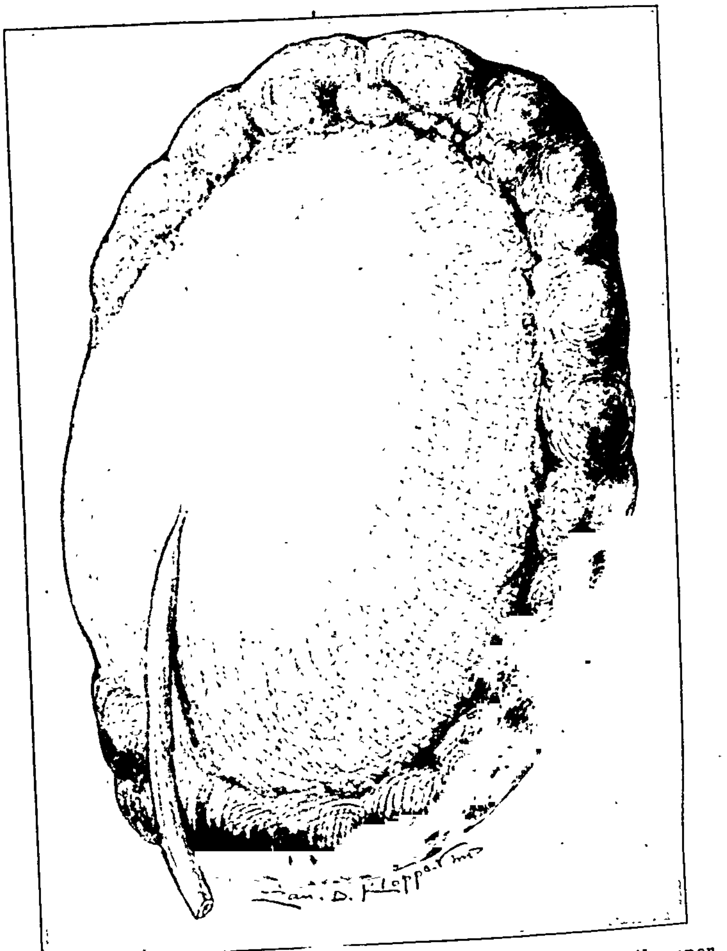

Fig. 2.—Front view of kidney in Case 2. This shows the enormous dilatation of the kidney pelvis and the narrow margin of parenchyma, with prominences due to dilated calyces. Note the narrowness of the ureter at its junction with the pelvis.

Comment.—In this case the hydronephrosis had probably existed for a number of years, judging by the size which the right end of the horseshoe kidney had attained. It is reasonable to deduce that in the absence of any marked dilatation of the ureters, the obstruction must have been close to the renal pelvis as in Case 2.

That congenital hydronephrosis of a horseshoe kidney is not so rare, is shown in a recent article by Papin and Christian.[1] They found hydronephrosis in horseshoe kidneys in fifteen autopsies. Nine patients have been operated on for this condition by Albarran, Israel and others. The cause of the hydronephrosis in these cases was either congenital stricture of the ureter or faulty insertion of the ureter.

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[1] Papin and Christian: Ann. d. mal. d. org. génito-urin., xxviii.

An interesting feature of my case is that the condition remained latent until infection occurred. From that time on the clinical picture resembled that of any of the conditions giving rise to the so-called "acute abdomen," such as appendicitis, etc. The diagnosis was impossible before operation, under these circumstances.

Case 2.—*Enormous Congenital Hydronephrosis in a Boy of 12.*

History.—H. H., a boy aged 12, was referred by Dr. Van Dellen, of Chicago, on account of an enlargement of the abdomen which had steadily increased in size for the preceding two years. The boy had never had any of the eruptive diseases of childhood. The father stated that his abdomen had been quite large since birth, but this had been most noticeable during the six years before being seen by me. During these six years he seemed to fatigue easily, could not walk much and was not well nourished. He voided large quantities of urine, but there were no symptoms referable to the urinary organs. He was sent to my service March 27, 1911, by Dr. Van Dellen. The boy was not so tall and did not weigh so much as the average boy of his age.

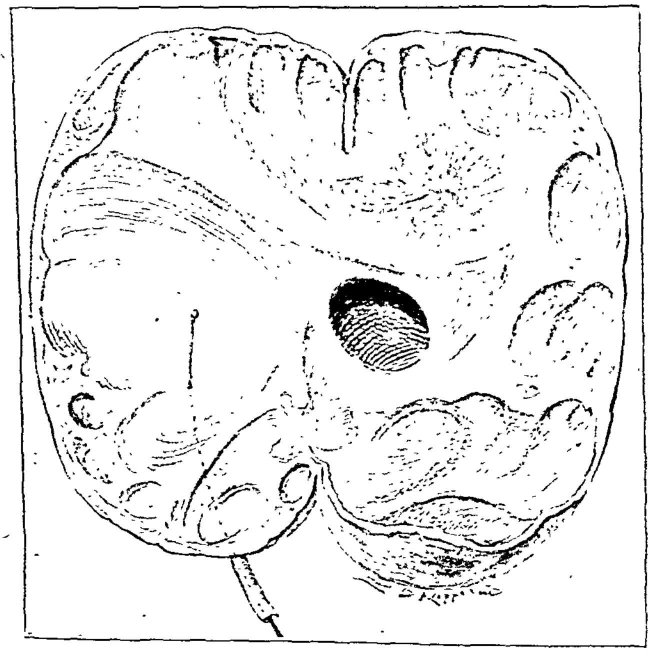


Fig. 3.—Interior of kidney in Case 2. Note the narrow rim of kidney tissue, dilated calyces and pelvis and the small orifice of the ureter, through which filiform bougie is inserted.

Examination.—Inspection revealed a prominence of the entire abdomen, which was most marked on the left side, extending from the costal arch above to Poupart's ligament below, and beyond the median line (Fig. 1), toward the right. This extension to the right was especially noticeable in the right upper quadrant. On palpation one could easily outline a soft semifluctuating tumor, which showed a projection toward the right, extending beyond the mid-line, at its upper and lower ends. Between these two was a distinct sulcus. The two more prominent ends were shown at operation to be the upper and lower poles of the kidney, respectively, and the sulcus was the hilum of the kidney. One could not distinguish any posterior limits of the tumor as it passed directly over into the kidney region behind. Dulness was present over the entire tumor and there was no change on shifting the patient's position. The colon when inflated was seen to lie in front of the tumor, thus confirming my diagnosis of its retroperitoneal nature. The cystoscopic examination by Dr. I. S. Koll showed a normal bladder with two normally-placed ureteral openings. From the left ureter turbid urine escaped; from the right one, clear urine. Ureteral catheterization was, however, impossible, owing to the constant filling up of the bladder with turbid urine, evidently escaping from the left hydronephrotic kidney. The urine showed a large number of pus corpuscles, but no casts. The diagnosis of congenital hydronephrosis was confirmed by the subsequent operation.

Operation.—Nephrectomy, March 24, 1911. The patient was placed in the right lateral position and the usual oblique kidney incision made in the left iliocostal space. On exposing the tumor, the latter was found to be retroperitoneal, and was soft, fluctuating and translucent. A trocar was inserted and about 2 quarts of thin turbid fluid escaped. The kidney, now collapsed, was gradually brought into the wound and the vessels at the hilum exposed, in order to see whether an aberrant renal artery was present as the cause of the hydronephrosis. No such aberrant vessel was found. The kidney was removed and the abdominal wound sutured in layers and drainage inserted. The boy made an uneventful recovery and the wound was entirely healed three weeks after operation.

Examination of the fluid removed by trocar showed it to be urine containing a large number of pus-corpuscles. Cultures were made from this by Dr. D. C. Strauss, but remained sterile. The kidney showed the typical changes of an enormous hydronephrosis (Figs. 2 and 3). The entire kidney when filled with fluid must have been about the size of an adult head, judging from its capacity after removal. The cause of the obstruction was undoubtedly a congenital stricture of the ureter, to be plainly seen in Figure 2. Close to its junction with the renal pelvis, the ureter, which was of normal size from this point downwards, suddenly became greatly narrowed so that it would scarcely admit even the smallest sized filiform urethral bougie. On opening the renal pelvis (*Fig.* 3), one could confirm this by noting the extremely small orifice of the ureter. In the illustration this minute opening of the ureter into the renal pelvis is shown by the long black shadow of a filiform bougie. A view of the interior will enable one to grasp the enormous dilatation of the renal pelvis and the greatly thinned-out renal parenchyma. The latter is present only in the form of a peripheral zone, not averaging more than ¼ of an inch in thickness. One can readily understand why such a hydronephrosis may rupture either spontaneously or as the result of trauma, instances of which have been collected by von Saar.[2]

Remarks.—The most interesting points are, (a) the diagnosis before operation of congenital hydronephrosis; (b) the congenital stenosis of the ureter as the cause of the obstruction to the escape of the urine, and (c) the fact that such a large hydronephrotic kidney could be present practically without symptoms except enlargement of the abdomen and emaciation since birth.

31 North State Street.

AN INSTRUMENT FOR RECTAL OPERATIONS, ESPECIALLY THE WHITEHEAD

W. J. WOOLSTON, M.D.
CHICAGO

The instrument (Figs. 1 and 2) consists of a conical rubber plug, to one end of which is fastened a metal band (Fig. 2, *e*), which has an attached handle for the purpose of manipulation. At the proximal border of this band is a deep, narrow groove which is for the purpose of holding a silk purse-string (Fig. 2, *a*).

The technic is as follows: A silk purse-string suture is placed around the anus at the junction of the anal integument (Fig. 2, *c*) and mucous membrane. The boiled instrument is covered with sterile oil or petrolatum and introduced into the rectum as far as the groove in the band (Fig. 2, *a*). The mucous membrane is then arranged so that the purse-string can be drawn into the groove and tied (*a*). A circular incision of the anal integument is made and by slight traction downward the sphincter muscle (*c*) can be brought into view. The sphincter is then pushed up by blunt dissection to a desirable height and any visible, dilated veins ligated.

Four mattress sutures (Fig. 2, *d*) are placed at equal distances, around the circumference of the anus, uniting mucous membrane to integument at a point where the rectum is to be severed. The bowel (Fig. 2, *b*) lying on the rubber plug is then split longitudinally to the height where the rectal wall is to be severed circularly, which procedure then follows. The circular incision is made in about half-inch sections, so that hemorrhage may be controlled and proper approximation be obtained to coapt the margin of the rectal wall and integument.

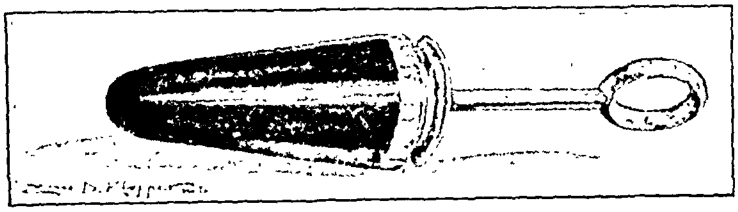


Fig. 1.—Instrument for rectal operations, especially the Whitehead.

The operation is performed on the rubber plug, occluding the bowel in such a manner that no contamination of operator or field of operation takes place.

Time is saved as the dissection of the rectum takes place on a firm base and the bowel is distended.

The original idea of this procedure belongs to Dr. Djemil Pacha of Constantinople. An instrument with this principle in view is one brought out by Dr. Silbermark of Vienna. His instrument consists of a conical rubber plug, fastened to a metal handle; the wing-like end is connected with a screw-axle, through the rotation of which four hooks grasp the ring on closure of the instrument.

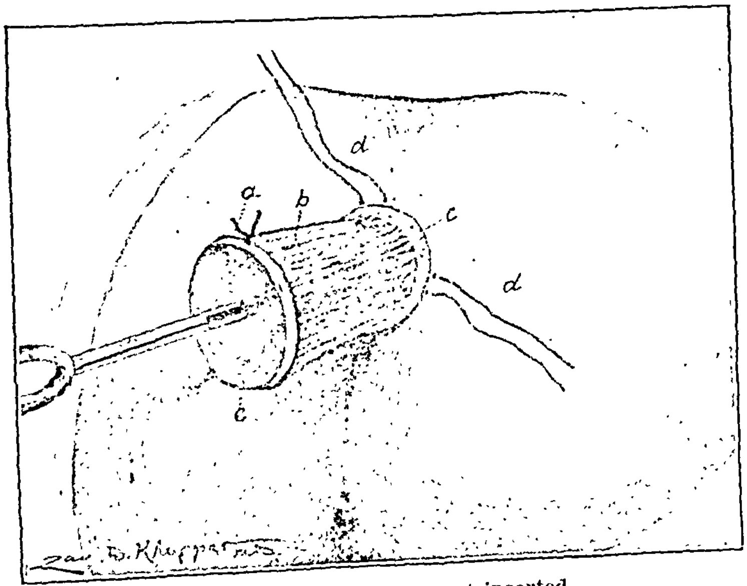


Fig. 2.—Rectal instrument inserted.

The idea of the present modification is to simplify the instrument and render it more efficient.

4101 Evanston Avenue.

Overpopulation and Tuberculosis.—"Consumption is a product of civilization," says W. Hutchinson in the *Survey*. "What civilization has created, it can cure. That pressure of man against man, which we term 'overpopulation,' which sharpened his wits and made civilization, also made tuberculosis as a by-product. . . . The death-rate from tuberculosis is a function of the density of the population—the greater the density the higher the death-rate."

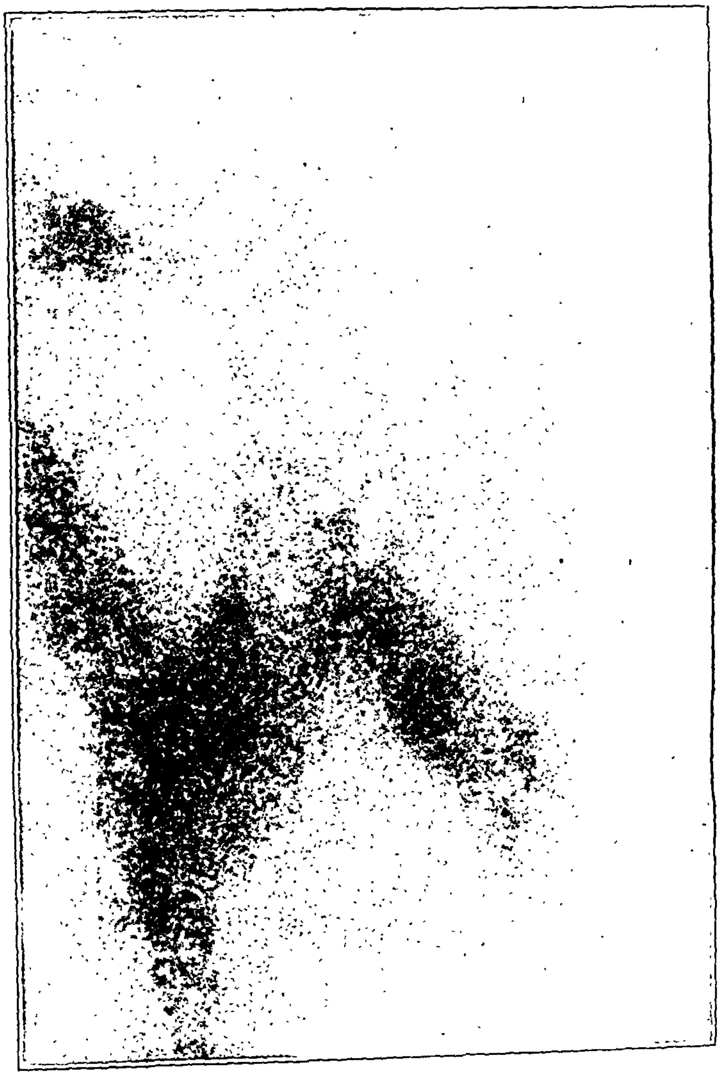
FRACTURE OF ANATOMIC NECK OF HUMERUS

WITH SUBCORACOID DISPLACEMENT OF LOWER FRAGMENT

J. WARREN WHITE, A.B., M.D.
NORFOLK, VA.

Patient.—W. S., a colored man, aged 50, gave a history of having had a fall on his right shoulder several weeks prior to the time I saw him. The right arm as a result was absolutely useless. As a physician was called in to see him at the time of the accident, I infer that others failed in the diagnosis.

Examination.—I found what I thought was a subcoracoid dislocation of the humerus. After an unsuccessful attempt at reduction, under general anesthesia, I performed an arthrotomy, and found that what I had thought to be the head of the humerus was the displaced lower fragment. The end of the bone was smooth and convex. The articular surface of the bone had been shelled off and left in the glenoid cavity.



Radiograph, taken twelve months after the operation, in a case of fracture of the anatomic neck of the humerus, with subcoracoid displacement of lower fragment.

Operation.—The upper fragment was left undisturbed. After pushing back the periosteum, about 1 inch was resected from the lower fragment and the end covered by the periosteal flap. The contiguous muscle was then sewed over the end of the bone, making a bed for it just below the glenoid cavity. The arm and forearm were bandaged across the chest. On the sixth day, passive motion was begun.

Outcome.—It is now eighteen months since the operation. The contour of the right shoulder is symmetrical with that of the left. The patient, who is working as a carpenter, states that the functional result of the operation is perfect, as he has absolute use of his right arm.

THE PERIOD OF INFECTIVITY OF THE BLOOD IN MEASLES *

JOHN F. ANDERSON
Director Hygienic Laboratory
AND
JOSEPH GOLDBERGER
Passed Assistant Surgeon, U. S. Public Health and Marine-Hospital Service
WASHINGTON, D. C.

In our supplemental note[1] we published in some detail the experiments of which our first note[2] was a brief summary. It will be recalled that up to that time we had inoculated nine rhesus monkeys with blood from four human patients with measles, and that of these animals only four (Nos. 38, 12, 6 and 8) had given any very significant evidence of a reaction, and that only two of these (Nos. 6 and 8) were clearly marked. In other words, of nine animals inoculated only two gave unmistakable reactions, two others gave reactions that we regarded as significant, while in the remaining five a reaction was either not appreciable or at most only suggestive. This result we were at first disposed to regard as due to a low degree of susceptibility in the monkey, combined with a considerable degree of individual variation.

In spite of this explanation it struck us as peculiar not only that both animals inoculated with the blood from Patient 4 should have given well-marked reactions, but that of four other monkeys inoculated with blood from these two, at least three gave well-marked reactions. With this doubt of the adequacy of a slight and variable susceptibility to explain this result in our minds, we reexamined the details of our experiments and were struck by the fact that the blood from the patients in our first three cases was obtained after an interval of between thirty and forty-two hours in Case 1, after an interval of between twenty-four and twenty-nine hours in Case 2, and after an interval of between thirty-two and forty hours in Case 3, from the first appearance of the eruption, while in Case 4 the blood was obtained after an interval of only between fourteen and eighteen hours from the first appearance of the eruption.

The thought at once suggested itself that in measles we might have a disease in which the infectivity of the blood was limited more or less sharply to the early stages, somewhat as in yellow fever, the resemblance of the temperature curve of which to that of measles had already struck us. We, therefore, determined to test this point at the first opportunity.

May 28, 1911, we were advised by Miss Kramer, Assistant Superintendent of Garfield Hospital, of the admission to the measles pavilion of a patient with the eruption just appearing. Through the kind courtesy of Dr. J. D. Morgan we obtained some blood from this case.

The patient was a colored girl, 18 years old, who stated that she was taken sick on the morning of May 24, and that she first noticed an eruption on the morning of May 28. The blood was drawn at 6:15 p. m., May 28, at once defibrinated and taken to the laboratory. We inoculated three monkeys as follows:

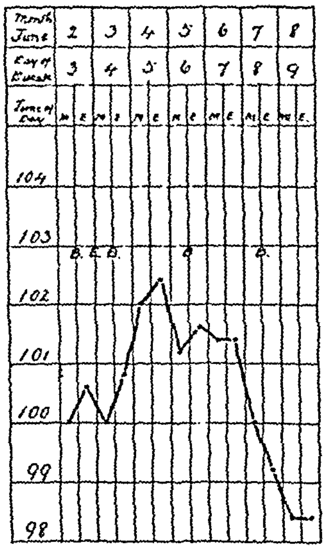
Rhesus 41 received 0.5 c.c. of defibrinated blood intracerebrally and 3 c.c. intraperitoneally.

Rhesus 75 received 0.5 c.c. of blood-serum intracerebrally and 2 c.c. intraperitoneally.

Rhesus 77 received 0.5 c.c. of a suspension of washed corpuscles intracerebrally and 3 c.c. intraperitoneally. The corpuscles were washed four times with physiologic salt solution, then brought to the original volume of the defibrinated blood with the salt solution.

The result of this test was at first rather unexpected. Of the three animals inoculated, only one gave any recognizable evidence of a reaction; this animal (No. 77) presented a rise of temperature beginning June 8, eleven days after inoculation, and terminating June 11. There was no eruption, no cough, no coryza.

We say that this result was unexpected because in this instance the blood was obtained apparently at about the end of twelve hours from the appearance of the eruption, and if our theory was correct we felt that we should have obtained reactions not only in a larger proportion of the animals, but also reactions that should be more clearly marked. A critical analysis of the history of the patient furnishing the blood, however, makes it evident that the eruption may have been at least ten or twelve hours older than at first appeared. The patient being a mulatto, the eruption could very easily have made its first appearance in the late afternoon or early evening of May 27, and so escaped her observation until the following morning. In view of this possibility we felt that this experiment could not be considered as negativing our theory and, therefore, we prepared to put it to further test in our next case.



Course of temperature in Case 6.
B. bled; E. eruption appearing.

Through the courtesy of Dr. William A. White we saw the next patient (Case 6) before the appearance of the exanthem. This patient, an attendant at the Government Hospital for the Insane, stated that she was first taken sick with a cold in the head on May 31, 1911. We bled this patient on four separate occasions (see illustration 1). The first bleeding (June 2, 1911) was a few hours before the eruption began to appear and while the patient's temperature was between 101 and 100 F.

This blood, after defibrination, was inoculated into two monkeys, one (No. 78) a *Macacus cynomolgus*, the other (No. 79) a *Macacus rhesus*. Both animals gave a short but definite reaction that was at its height ten days after inoculation.

The second bleeding (June 3), exactly twenty-four hours after the first, and about eighteen to twenty hours from the very first appearance of the exanthem, was at a time when the patient's temperature was between 101.6 and 101.3 F., and when a definite eruption was already present, but not fully developed.

After defibrination a portion of the blood was centrifugalized and the serum pipetted off. The corpuscles remaining were washed four times with physiologic salt solution. After the fourth washing the supernatant fluid was pipetted off, replaced for the fifth time with salt solution and the resulting suspension of corpuscles, equal to the original volume of defibrinated blood, was used for the inoculation of a rhesus monkey (No. 88). This animal received 3 c.c. of this suspension intravenously.

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* From the Hygienic Laboratory, U. S. Department of Agriculture.

[1] Anderson, John F., and Goldberger, Joseph: Experimental Measles in the Monkey: a Supplemental Note, Pub. Health Rep., June 16, 1911, p. 887.

[2] Anderson, John F., and Goldberger, Joseph: Experimental Measles in the Monkey: a Preliminary Note, Pub. Health Rep., June 9, 1911, p. 847.

A second monkey (Rhesus 83) was given 3 c.c. of the blood-serum intracerebrally, but a considerable proportion (we estimate one-half) was lost during the inoculation.

At the same time a third monkey (No. 84) received by intracardiac injection 3 c.c. of the defibrinated blood mixed with an equal volume of defibrinated blood from a normal rhesus. This animal served as a control for another experiment that will be reported in a later paper.

All three animals gave well-marked reactions with the appearance of an exanthem.

The third bleeding (June 5), forty-five hours after the second, was at a time when the patient's temperature was 101 F. and the eruption fully out. The blood was defibrinated and two monkeys inoculated: Rhesus 89a received 3.5 c.c. and No. 89b received 4.5 c.c. intravenously.

The general level of the temperature in both these animals was unusually high from the beginning and so continued for about two weeks; in the case of No. 89a there was noted, in addition, a rise above this level suggestive of a reaction. We think, however, that the generally high level of the temperature in both animals and this additional rise in one of them is to be accounted for by a diarrhea from which both animals suffered. Improvement in the diarrhea and a lowering of the temperature seemed to go hand in hand.

The fourth bleeding (June 7), about forty-eight hours after the third, was at a time when the eruption had almost, but not quite, faded from all parts of the body and desquamation had begun. Two rhesus monkeys were inoculated with the blood after defibrination; one (No. 90a) received 4 c.c. intravenously and 0.5 c.c. subcutaneously, the other (No. 90b) received 4.5 c.c. intravenously and 2 c.c. subcutaneously. At this writing, twenty-one days after inoculation, neither animal has presented evidence of a reaction.

Summarizing the results obtained from inoculations from this patient (Case 6) we have, first, a definite febrile reaction in both of two monkeys (one a *Macacus rhesus*, the other a *Macacus cynomolgus*) inoculated with blood obtained a few hours before the first appearance of the exanthem; second, marked reactions in all of three rhesus monkeys inoculated with blood (one with defibrinated blood, one with serum, and one with washed corpuscles) obtained about eighteen to twenty hours from the very first appearance of the eruption; third, no evidence of a reaction in one and at most a very doubtful reaction in the second of two animals inoculated with blood obtained about sixty-five hours after the first appearance of the eruption; fourth, no indications of a reaction in either of two monkeys inoculated with blood obtained 113 hours after the first appearance of the eruption.

This would indicate that the blood in our Case 6 was infective for the monkey just before the appearance of the exanthem (late in the preeruptive stage), during the stage of efflorescence of the exanthem (eighteen to twenty hours after its first appearance), that it had almost, if not quite, completely lost its infectivity sixty-five hours after the first appearance of the eruption, and that it was no longer infective 113 hours after the first appearance of the eruption.

Considering now, as a whole, the results obtained from inoculations with human blood from our six cases, we believe that they consistently point to a period of infectivity of the blood beginning at least just before and continuing for about twenty-four hours after the first appearance of the exanthem. At the end of about twenty-four hours from the first appearance of the eruption the infectivity of the blood for the rhesus monkey already appears very greatly reduced, and becomes progressively less thereafter.

It will be recalled that Hektoen[3] (1905) found the blood infective thirty hours after the first appearance of the rash; but it should be pointed out that he worked with a much more susceptible animal—man. So that it would not be at all surprising if the period of infectivity were somewhat longer for man than for the monkey.

The existence of a more or less definitely limited period of infectivity of the blood in measles, strongly indicated by our experiments, would explain both the negative and the positive results of monkey inoculations reported by Josias[4] in 1898, would throw light on the reported failures of subsequent workers,[5] and would, therefore, make understandable the opinion almost universally held heretofore that the monkey is not susceptible to measles.

A NEW SPHYGMOMANOMETER

PERCIVAL NICHOLSON, M.D.
ARDMORE, PA.

Feeling the need for a simple, compact, accurate, and at the same time reasonably inexpensive, blood-pressure apparatus, I devised the following:

In describing this form of blood-pressure apparatus I do not claim to have evolved any new principles, but wish to state that it is an apparatus embodying features from several forms of sphygmomanometers now in use, with certain other alterations and modifications, making a practical and simple instrument. The reservoir principle is similar to that of the Stanton, while the use of the glass in its manufacture was adapted from Dr. Kercher's instrument. The pneumatic cuff is essentially that of Dr. Janeway. The use of the sliding scale and the box lid to support the instrument were also derived from the same source.

This instrument consists, as can readily be seen from the illustration, of a long glass tube of small bore continuous through a short U-shaped bend, with a large cylindrical glass reservoir partly filled with mercury, and into the upper end of which projects a short piece of glass tubing fused into it. To the upper end of this tube there is a short heavy rubber tube, attached in turn to a metal piece from which project, first, a metal stop-cock, second, a plain corrugated tube, and third, a projection carrying a needle-valve. Parallel to the long glass tube is a movable 300 mm. scale. To the upper end of the long glass tube is a steel stop-cock securely fastened to the glass. The glass portion is held in place by clamps and is easily removed. The metal parts are firmly secured to the lid, which, when opened, is held in an upright position. To the metal stop-cock *D* is attached a rubber tube, along the course of which is a metal valve, and at the end is attached a metal pump. To the corrugated metal connection *C* is attached a long rubber tube which runs out to a pneumatic cuff. This cuff is 12 cm. wide and quite rigid, being made of stiff leather on the outside, and adjustable by means of straps. A narrower cuff will give too high readings in normal cases, and too low where the arm is large.

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[3] Hektoen, Ludvig: Experimental Measles, Jour. Infect. Dis., 1905, ii, 238.

[4] Josias, Albert: Recherches expérimentales sur la transmissibilité de la rougeole aux animaux, Méd. moderne, 1898, ix, 153.

[5] Grunbaum, A. S.: Some Experiments on Enterica, Scarlet Fever and Measles in the Chimpanzee; a Preliminary Communication, Brit. Med. Jour., April 9, 1904, p. 817. Jordan, Edwin O.: A Text-Book of General Bacteriology, second edition, 1911. Measles, p. 564

The operation of the instrument is very simple: all that is necessary is to turn the steel stop-cock on the end of the glass tube, push the pneumatic cuff on the patient's arm, and start to pump the air into the apparatus. The metal valve in the tube will sustain the pressure, but as a precaution, should it leak a little there is a metal stop-cock *D*, which can be shut off when the air-pressure is sufficient to obliterate the patient's pulse. Now the metal stop-cock *D* having been shut, the needle-valve *B* should be unscrewed slightly, and, the air-pressure being lowered, the mercury column in the long tube will be seen to fall slowly and evenly, the rate being regulated by the amount the needle-valve is unscrewed. The systolic pressure is then read on the mercury scale, when the patient's pulse first becomes palpable; or, if the auscultation method be employed, listening with ordinary binaural stethoscope over the ulnar or radial arteries just below the bend of the elbow, one will hear a loud, clear thump when the first cardiac beat comes through.

One reads the number of millimeters in the mercury column and gets the systolic pressure, which will be about 10 mm. higher than if palpated by the pulse at the wrist. In obtaining the diastolis pressure the mercury should be allowed to keep on falling, the physician observing the lowest greatest fluctuation, or, if the auscultation method is employed, continuing to listen over the artery until no sound are heard, and reading the mercury column at this point.

This explains in a few words the instrument and its operation, but there are some points about this apparatus in distinction to others which do not appear on the surface, and which are of great importance in the use and value of such an instrument.

Great care must be exercised in the selection of material with which the mercury comes in contact, as with most of the metals, as brass, in fact, all of the metals except platinum and steel, mercury will form a salt, thus in time creating a coating on the glass parts and greatly adding friction, eliminating the accuracy of the readings. So also in the case of soft rubber; mercury coming in contact with the sulphur used in its manufacture forms a black coating of sulphid of mercury.

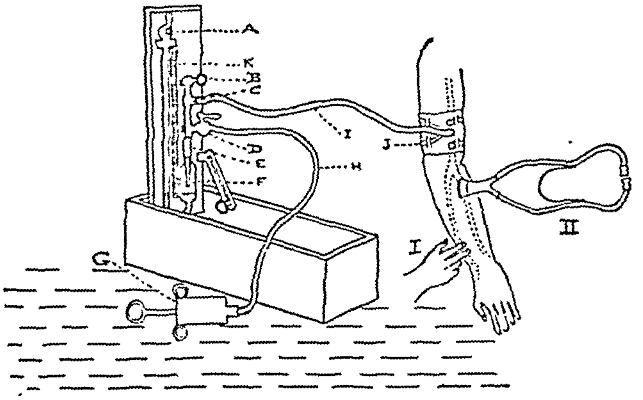
Steel can be utilized, as indeed was done in the case of the Stanton instrument, but this means a heavy, cumbersome, and at the same time an expensive instrument, as steel is a difficult metal to work. Of course, platinum is too expensive for practical use. Now in the instrument I have described, this difficulty is obviated by having the mercury entirely contained in glass, so that it cannot touch any of the metal parts, save the steel stop-cock, which is non-corrosive, or the soft rubber connection, as the glass projection in the reservoir acts in preventing the back flow of mercury. Another thing of great value is the use of a metal pump and metal valve, thus doing away with all rubber bulbs, or, what is practically the same, ribbed expansive rubber tubing, for both are a constant source of repair and renewal, due to blowouts and accidents, particularly exasperating if they should happen in a patient's house while taking a blood-pressure, as I have had occur when using bulb apparatus.

In addition, this apparatus has been made with a special view to compactness, being so proportioned that the instrument complete, inside of its wooden case, will fit in the ordinary 15-inch doctor's bag, and has the corners rounded to admit of its not injuring or catching the bag in which it is carried.

It is absolutely simple, being ready to use by raising the lid and turning one stop-cock.

There are no separate parts, screws or nuts to lose, no mercury to pour.

As the box is so arranged that it cannot be closed until the steel stop-cock on the end of the tube is shut, there can never be any loss of mercury. The entire glass portion is removable and capable of being cleaned. It is very accurate, using the full 300 mm. scale, whereas all U-tube instruments have to use a scale condensed one-half to allow for the depression of one column while the other is rising, and hence the graduations are only one-half as fine.



A new sphygmomanometer. *A*, steel stop-cock; *B*, needle-valve air-release; *C*, metal connection to cuff; *D*, stop-cock for tube to pump; *E*, rubber connection to mercury reservoir; *F*, glass reservoir; *G*, metal air pump; *H*, tube to pump; *I*, tube to cuff; *J*, pneumatic cuff; *K*, 300 mm. sliding scale.

The dial instruments have even more condensed scales than the U-shaped instruments, and are open to the same objection.

Having an adjustable zero point one is always sure of accurate readings, whereas if a dial instrument (which, by the way, has to be standardized with a mercurial instrument) is not correct there is no way to determine its error, for one would have to test it with a mercurial instrument before finding it out. Their great advantage is compactness, but when one uses a wide rigid cuff, such as Von Recklinghausen proved to be the only accurate variety, the advantage of compactness is largely gone.

Then, too, having a large reservoir on one side and a small bore tube on the other the diastolic fluctuations in this form of apparatus, like the Stanton, are wide and easy to read, which result is not obtainable on any U-shaped tube.

Having a needle-valve release it has perfectly even and regular control of the air-pressure.

This instrument, being securely fixed in a wooden case, is not nearly so liable to injury as the delicate dial instruments; the glass portion not being cemented to the instrument is easily renewable should it become broken from undue violence.

Lastly, it is a simpler apparatus than most and can be manufactured at a more reasonable price.

10 West Lancaster Avenue.

Section Discussions

THE HEALING OF IRIDECTOMY WOUNDS AND ITS INFLUENCE ON GLAUCOMA

ADOLF ALT, M.D., ST. LOUIS

(Concluded from page 110)

ABSTRACT OF DISCUSSION

Dr. Hiram Woods, Baltimore: None of us knows just how an iridectomy relieves glaucoma—just why a satisfactory coloboma does not relieve in one case when it does so in another, but such is the case. There is one class of cases of which I have seen three in the past two years, in which I should like to have some information from Dr. Alt. In a way they point out some of the influences of an iridectomy. I allude to the class of cases in which it is difficult to determine whether we have a primary or a secondary glaucoma to deal with. Maybe I can best illustrate it by giving some of the points from these three cases. One was in a woman of 65, who came to see me on account of floating bodies in the vitreous and peripheral striations. The vision was 20/30. A drop of euphthalmin was put into the eye for diagnostic purposes and in half an hour she had an acute glaucoma. Under eserin it subsided. The patient did not live in Baltimore, and in a few months went to see Dr. Risley in Philadelphia without my knowledge. He found the floating bodies. She did not tell him of her experience in Baltimore and he used homatropin, and she turned up a week later with a genuine glaucoma. She had floating specks in the vitreous and peripheral striations. The visual field was not contracted beyond 30 degrees. I performed an iridectomy; cataract ensued and the eye went out, with the typical symptoms. One would not think there was any connection between this trouble and the vitreous, but these observations prove it.

Another woman had a quiescent glaucoma and a uveitis with floating bodies. She was iridectomized, with a relapse, the development of an exudative chorioiditis and loss of the eye. The third case was in a woman aged 38, who came with a glaucoma, but with a contracted pupil. The tension was plus 2, and her field of vision was limited more than 40 degrees. The contraction was due to the eserin used by the physician who referred the patient. I performed an iridectomy and found pigmented spots on the lens capsule and a chorioiditis. The operation was not useful and her last state was worse than the first. On the other hand there was in Baltimore a patient who had a chorioiditis and a black cataract. He recovered after operation 20/30 vision. In the three cases there were floating bodies followed by a rapid exudative chorioiditis. In the other the vitreous was clear and the eye was healed, as far as we know, as far as the uveitis was concerned. What is there in an iridectomy to produce glaucoma? There was something which took place through the vascular connection between the iris circulation, which was Dr. Alt says something happens. What is it that leaves a glaucoma in a primary case, and can set up such destructive changes when the glaucoma is secondary, as in these cases?

Dr. Adolf Alt, St. Louis: I do not know exactly how to answer Dr. Woods' question. Of course the iridectomy has undoubtedly altered the circulatory apparatus in the eye, but why it should have produced an exudative chorioiditis I cannot see, unless there was, perhaps, already a chorioiditis when the iridectomy was made. Such eyes go to the bad anyway.

TREATMENT OF PURULENT OPHTHALMIA AND SIMPLE MEANS FOR ITS PREVENTION IN INFANTS

MARK D. STEVENSON, M.D., AKRON, O.

(Concluded from page 99)

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: Maceration of the epithelial cells is one of the things we have to look after. If pus is allowed to remain in contact with epithelial cells and the infection is severe they will suffer destruction. Therefore frequent flushings of the eye are *absolutely essential*; not every hour but every ten or fifteen minutes—just as often as pus forms. As to destruction of the epithelial cells, of course we can destroy the epithelium by awkward use of the flushing and by instruments, but this ought not to be done. I do not think most of us will advise our nurses to use instruments to open the babies' eyes for flushing. Nitrate of silver is destructive of epithelium, more or less, in whatever strength it is used. It is capable of destroying germs and at the same time the tissues. I have not used a solution of nitrate of silver in any strength in an eye for I don't know how long, but so long that memory runneth not to the contrary. I have used protargol from the day of its introduction. I have never used argyrol. I use protargol 40 gr. to the ounce, with frequent cleansing, and with that mixture which some seem to have forgotten, first given to the profession in California seventeen years ago by Dr. Scott of Cleveland, who has since passed away. I do not know of anything else that he left to the profession, but in my judgment the mixture outlined by Scott in 1894 is one worthy of consideration by everyone in cases with discharging pus. I do not know that many know what it is. I do know that such men as J. L. Thompson after the meeting found themselves so confident of the efficacy of that agent that they do not want nitrate of silver any more. That combination I have invariably used with great efficacy from that time down to the present day. It is hydrastin, tincture of opium, boracic acid and distilled water—hydrastin 2 gr., tr. opium 30 drops—he used a dram—boric acid 20 gr., distilled water 1 ounce. Eight or 10 drops are put into the sac every hour or two during the twenty-four hours, associated with applications of protargol; with that treatment I face these cases with confidence.

Dr. Adolf Alt, St. Louis: I agree with Dr. Savage in the fact that I have not used nitrate of silver for certainly not less than fifteen years—not since protargol came into use. But I do not agree with Dr. Savage in using it so strong. I believe in using a weaker solution and using it much oftener. If one could put the eye under a continuous bath of a weak solution of argyrol it would be better yet. I am satisfied with either. Argyrol in 25 per cent. solution very frequently—every hour or half hour—it seems to me gives just as good results as we had before with the use of nitrate of silver, and it is infinitely more agreeable. The washing out of the sac with any other remedy besides, I think, is useless. If the antiseptic or germicide is used frequently enough I think nothing else is needed.

Dr. S. L. Ledbetter, Birmingham, Ala.: I was a little bit loath to take the position that nitrate of silver was bad because of the result of a discussion at Atlantic City several years ago in which the consensus of opinion was that the nitrate of silver was probably the best of all. I have not used it for ten or fifteen years. I never lost an eye except when I used the nitrate of silver. One swallow doesn't make a summer, but the experience of one man combined with that of another does help. I have used irrigation always. I instruct the nurse to use it as often as she sees any beads between the lids, not to allow an accumulation of pus at any time. I believe if the pus is kept thoroughly washed away the bacillus is diluted to that extent that it does not become so virulent; and besides, I think the constant contact of pus with the cornea sometimes will produce an erosion, and wherever there is an erosion there will be a bad eye. I do not pull the lids apart, as a rule, with an elevator, but by a little pressure on the upper and lower lids they evert themselves. I instruct the nurse to evert them in that way, wash them off, and repeat this eversion and washing a number of times and in a little while the folds are clean. Keep them clean in that way and use the argyrol or protargol and your patient will do well. I do not know that I have had any difference in my experience in the use of these two drugs, because I haven't lost an eye since I quit using the nitrate of silver.

Dr. William E. Briggs, Sacramento, Cal.: It was a revelation to me to hear the paper of Dr. Stevenson, because we have as a profession regarded it as a sort of religion that we must cleanse the eye frequently, and that any natural drainage would not be sufficient to remove the pus. The germs carried by the pus are the elements destroying the epithelium of the cornea. Now many of us have believed all our lives that if eyes are properly cared for from the beginning none of them will be lost. I was taught that and I advocated it. When I saw an infant with gonorrheal ophthalmia if I found the cornea clear and normal I would say the eye would be saved. For twenty years in my practice I have used the nitrate of silver in all cases. Besides the nitrate I have had the patient's eye cleansed with some cleansing solution, either boric acid or permanganate of potash—something as unirritating as possible—and at times have used weak solutions of bichlorid of mercury, etc.; but it has become a sort of a religion with me that the eye must be washed out, and I would want more men's experience that simple drainage would be sufficient before I would advocate it. When argyrol and protargol were advocated I began very religiously using these remedies, and I had very good results; but later. learning that they were not germicides and that their efficacy was doubted by many very good men I have gone back to the nitrate of silver, and. so far as I know, and I think that is correct, I have never lost an eye that came to me with a clear cornea. I have said that a great many times. but I am not going to say it any more. as my nephew, who is associated with me, had a case in a premature infant which, though I believe it was thoroughly and efficiently treated, lost both corneas. The fact that the infant was premature would account for this.

Dr. F. T. Rogers, Providence: I cannot forbear saying a word for a drug that has done more to save blindness in children than all the argyrol and protargol in the world; that is, nitrate of silver. From the day it was introduced it has had its adherents. When I hear a man say that he has used argyrol and protargol without losing an eye I feel that he probably hasn't treated many eyes, particularly among the lower classes of people. Twenty-five years ago was advocated the use of simple petrolatum in the lids and upward of 200 cases without the loss of an eye were reported. Of course by statistics we can prove anything. But I believe no hard and fast rule can be followed. In my hospital experience, which has been considerable, I have come to believe firmly in cleanliness, which we cannot get without lavage; one cannot wash out the lids by simply everting them; one has to elevate them, and many things can be used for this purpose. It is not necessary to have a specially devised instrument. A hair-pin sterilized by heat can be adapted to any case without danger to the cornea. When Dr. Savage speaks of hydrastin I am reminded of Dr. Oliver Wenden Holmes when speaking of the tenth dilution of sodium chlorid. He said, "Take a grain of salt, drop it in the Adriatic; then pluck the tallest pine and stir it twice. and as a dose give one drop." I should not like to see a patient of mine treated with hydrastin.

Dr. Samuel Z. Shope, Harrisburg, Pa.: Dr. Stevenson quotes Dr. Edgar to the effect that the burden of the blame for blindness from ophthalmia neonatorum can be placed on the midwife. I investigated the question of ophthalmia neonatorum with reference to this point about five years ago, and my information corroborates that of Dr. Wood presented in his paper in the Section at St. Louis last year; his figure was 77 per cent. My own is 75 per cent. It is certainly striking if correct, that half the cases of obstetrics are attended by midwives and that 75 per cent. of blindness occurs in those cases. Dr. Stevenson points out the necessity of the use of a good prophylactic by statutory provision by one competent to use it. All the laws that have existed in the states up to this time have given the midwife the right to use the prophylactic. In New York they have put it into her hands, the state furnishing it. Last year I drafted a bill and fought it through the legislature which covers the use of prophylactics, the essential part of which is found in section 10 of that act.

We found physicians who refuse to use the Credé method of prophylaxis, and as Dr. Stevenson has pointed out, some physicians of large experience have never had a case of this sort, and this fact was a source of the greatest opposition to my work in Pennsylvania. They were not interested in the subject, and in order to overcome this I started in to educate the public. which Dr. Stevenson suggests. I wrote an unsigned article which could be comprehended by every one, leaving out all technical language, and had it published in about 900 newspapers of Pennsylvania, in many of them as an editorial. Every legislator received one or more of these papers. The next thing I did was to send to each physician a petition which should be signed by the leading laymen who elected the legislator in each district. If he was a Democrat, of course Democratic citizens were asked to sign the petition. The result was that the bill passed both houses unanimously and was signed by the governor. I am not here to tell about my own work, but if this small effort of mine would be the little bit of sulphur on the end of the stick that would start a fire that would extend over the prairies to the Pacific I should feel that my efforts had been of some value.

Dr. Harry W. Woodruff, Joliet, Ill.: Not all cases of ophthalmia require the same treatment. I do not think anybody would use solutions of nitrate of silver—at least strong solutions—in the moderate type of cases; but in cases in which the conjunctiva is greatly swollen and the discharge is profuse, certainly anything that will check that discharge and check it in as short a space of time as possible without doing damage to the corneal epithelium is the treatment to use. Now I am satisfied that strong solutions of nitrate of silver will do that. I will admit that its action on the corneal epithelium is destructive, but it should not be put on the cornea. If it is put on the swollen conjunctiva and the excess removed before the lid is replaced there is absolutely no danger to the corneal epithelium, and in forty-eight hours there will be a marked lessening in the discharge. I have not failed to find this. As to the use of argyrol—argyrol is absolutely harmless.

Dr. W. Zentmayer, Philadelphia: I cannot help but think that Dr. Stevenson has exaggerated the danger of injury to the corneal epithelium from the use of solutions. but I do not think he has exaggerated the danger of such breaks. I myself and many others in Philadelphia have long since discarded the use of protargol and argyrol. We pin our faith to nitrate of silver, and the only patients with ophthalmia neonatorum due to the gonococcus who do badly are those whose vitality is low. Dr. B. Alexander Randall in Philadelphia pointed out that the only cases in which there was danger of the loss of the cornea are those in which the child is marasmic or born before term, and that has been my personal experience. While it is possible that argyrol is beneficial, I believe it is beneficial only because it washes away the discharge. I certainly would not want to treat a patient without the nitrate of silver.

Dr. Mittendorf, New York: I agree with the last speaker that there are cases which will go along no matter what we do. and that it depends on the condition of the patient. We have seen these cases fail with the best of care in children who have been marasmic; we have seen them in children after measles in which both corneas will slough. But there is another thing in regard to the treatment that I would emphasize. and that is that instruments to go into the eye should not be entrusted to the hands of even an experienced nurse. I have been using the petrolatum treatment, especially mixed with boric acid, a great deal in these cases. I think a layer of petrolatum between the lids and on the ball is a great preventive and a preservative of the cornea. But the difficulty has been to introduce this petrolatum in the proper way. I have had hard rubber applicators and instructed the nurse to use them carefully, and yet every now and then we would get a corneal ulcer from this cause. I have now adopted the plan of using the petrolatum from one of the little collapsible tubes, and have the eye opened and closed a couple of times. and a layer of petrolatum will spread over the eyeball and protect it to a certain extent. In regard to the use of silver, I have found argyrol the least irritating, and it is especially desirable because it can be used according to the severity of the case in different strengths. In the majority of cases it must be used in 30 or 40 per cent.

Dr. D. W. Greene, Dayton, O.: There are other features in the treatment than the medical treatment. I have not heard any one speak of this point, and I am forcibly reminded of it by a case I saw some time ago which had passed through the hands of Walter Parker of Ann Arbor. A child had been born in the hospital. It developed ophthalmia neonatorum. A microscopic examination had been made and no gonococci found. It was treated with zinc solution and recovered so that the child was discharged from the dispensary service. The family afterward removed to Dayton. When the child was four weeks old it developed another inflammation of the eyes and came under my observation, and a microscopic examination revealed the presence of the gonococcus. This second inflammation had lasted ten days and there was sloughing of the cornea and both eyes were lost. The father, who was of little account, immediately began to notify the authorities at Ann Arbor that the child had been neglected, that the disease was present at its birth, and that he would hold them responsible for it. Fortunately I was able to assure the people at Ann Arbor that we had been able to find the gonococcus—not only found it, but cultivated it. This is a point not in relation to treatment, but it shows that cases that appear to be simply catarrhal at first can have grafted on to them a gonorrheal infection.

Dr. Edgar S. Thompson, New York: It seems to me we must make a decided distinction in the treatment of ophthalmia between the neonatorum type and what might be called the adult type; this latter applies to anything older than six weeks or two months. The clinical course of the case in later life is totally different. The prognosis in the neonatorum type depends on how early we get them. I believe that in every case of the neonatorum type with proper treatment the eye would be saved unless, as Dr. Zentmayer says, the child is marasmic. We have a large service at the Manhattan Eye and Ear Infirmary and we never lose an eye if the patient comes in time and the general resistance and health are good. As to the question of irrigations, it seems to me there are two very distinct actions of the secretions retained in the eye. One is the eroding action on the cornea and the other is the action of the gonococcus itself. In other words our experience is that the gonococcus multiplies much more rapidly in its own secretion. If allowed to remain a half hour it would be much more plentiful, and we have therefore adopted the plan of cleansing the eye every fifteen minutes day and night. I am sure where we relax this regime the case runs much longer. In regard to irrigating solutions, we have used a large number, but have always come back to boric acid. The value of irrigations is in the mechanical effect of removing the secretion. I do not think we gain much from so-called germicides. The pus accumulates down in the cul-de-sac and the nurses are instructed to manipulate the lids to get the secretion out, but to keep away from the cornea. I do not think we can treat one of these cases without properly draining the sac. With regard to the action of germicides, I think Hoops of Boston demonstrated that argyrol is not *per se* a germicide in the test-tube, but in the eye I have the impression that it does check secretion. We use it as a routine three or four times a day and I think the secretion is checked much more rapidly. We do not feel safe to depend on it absolutely, however, because I do not think it has any value at all in removing papular hypertrophy of the conjunctiva. I think it should be used here, not in strong solution for its germicidal action, but for the astringent effect of the silver.

Dr. H. Woods, Baltimore: I should like to defend nitrate of silver, but it does not need defense. It seems to me absolutely going back on the pathology and the experience of years to say, that nitrate of silver is not the sheet-anchor of ophthalmia as truly as atropin in iritis. Dr. Alt has made some statements to me with regard to argyrol and protargol that are extremely interesting. I would ask unanimous consent for him to present these statements.

Dr. Adolf Alt, St. Louis: When advocating argyrol I did not mean to say that nitrate of silver is not good. But I am aware of the dangers of the nitrate as well as of the shortcomings of argyrol. What Dr. Woods refers to is this. We do not know how the nitrate or the argyrol act. Schneider has made some experiments to find out what the action is on the conjunctiva, and he believes that the leukocytes are acted on by the irritant action of the solution and then produce a body which he calls leukein, and that is the active principle which kills the germs. The nitrate of silver is such an irritant. He has used sulphate of zinc in the same way, and they produce a new body, the leukein, from the leukocytes. Although some say that argyrol is innocent and does no harm, and in the test-tube it is worth nothing, yet in conjunction with the juices of the conjunctiva and the eye-ball it certainly has an effect and a very decided one.

Dr. Flavel B. Tiffany, Kansas City: I simply want to correct an impression that may have gone out from the statement of Dr. Rogers that more eyes are saved by nitrate of silver than by any other treatment. On the other hand, more eyes have been lost by the nitrate of silver than by any other treatment. Years ago when we depended on the nitrate we cured a certain per cent.—40 or 50. Since we have used protargol and argyrol we have cured a much larger percentage; Dr. Savage would say 75 per cent. or more. Dr. Stanley of Boston will tell you that he has cured 100 per cent. in nine years by the use of argyrol exclusively, and he has many cases. That was his report years ago.

Dr. Sherman Voorhees, Elmira, N. Y.: I should like to ask whether Dr. Stevenson has had experience with the Neisser serum. I have tried it out in some cases with no result; but recently a physician came to my office who had been treating patients with gonorrhea and had infected both his eyes. The cornea in one eye had half become necrotic and in the opposite eye there was considerable necrosis in the upper edge. I used in his case the nitrate twice a day with 50 per cent. argyrol about once in two hours in connection with irrigation sufficient to keep the pus out of the eye, no matter how often, night and day, whether fifteen minutes or ten minutes. I gave this physician 50 million every fourth day of Neisser serum. It seemed to me from all the cases of ophthalmia that I have treated that I should have lost this case. I lost one eye in this physician. But I believe also that I find more cases of ophthalmia neonatorum since physicians have used as a prophylactic argyrol than formerly when they used nitrate of silver. I believe this is explained by the fact that it is not so strongly germicidal, and that they depend on one application; but it is weaker and in using it as a prophylactic it should be used more than once as against the nitrate according to the Credé method. I find that physicians carry a 40 or 50 per cent. solution of argyrol and the application is made but once.

Dr. James W. May, Kansas City, Kan.: I should like to have Dr. Parke Lewis of Buffalo answer a question, since we have had discussion as to the value of the nitrate and argyrol, as to what effect it will have on medical legislation proposed in various states and in the enforcement of legislation already enacted in which the Credé method is required.

Dr. F. Park Lewis, Buffalo: I disclaim the credit of being an authority on ophthalmia neonatorum. What I have been able to do has been by coordinating the efforts of my colleagues in preventing blindness. In answer to Dr. May's question, we must distinguish very sharply between prophylaxis and treatment. That which is suitable for prophylaxis is not necessarily suitable for treatment. What we have done we have done as an expression of the sentiment of the profession rather than on account of our individual views. In 1906 before making any suggestion whatever we got the opinions of at least 200 ophthalmologists and as many obstetricians as to the most desirable prophylactic. The opinion found was that there was none so effective in judicious hands as the 2 per cent. Credé solution, which means one drop of a 2 per cent. solution dropped from a glass rod on the cornea. It was feared, however, that in the hands of untrained midwives, and indeed in the hands of untrained physicians—because the average physician is not skilled in the treatment of the eyes—that a 2 per cent. solution would not be safe, and therefore it has been generally advised that the 1 per cent. solution be used as a prophylactic for all official preparations sent out by the states. The question of treatment, however, is another matter. It is not a matter with which the committee has concerned itself; but we must concern ourselves with it as ophthalmologists, because it has been found that the ordinary physician is by no means qualified to treat ophthalmia neonatorum. Again and again it is asked how frequently it should be used as a prophylactic, and how strong. From many sources have come reports of damage from its injudicious use; but that has very generally been prevented by the supplementary use of argyrol.

Dr. A. E. Bulson, Jr., Fort Wayne, Ind.: Before closing the discussion I should like to say that I was glad that Dr. Lewis made this statement concerning the consensus of opinion of American ophthalmologists concerning the use of silver nitrate. I think it would be a great pity if this Section should put its stamp of approval on any of the newer silver salts and its disapproval on the old and well-tried nitrate of silver in the treatment of ophthalmia neonatorum. We must take into consideration the fact that we are dealing with a desperate disease, and it is our purpose and it should be our duty to use every means to prevent the destruction of eye-balls. Probably those who have had the largest experience in the treatment of ophthalmia neonatorum—I may say the majority of these—would say emphatically that they would place the most dependence on the nitrate of silver in the treatment of this disease; secondly, that with the nitrate of silver they would combine irrigation. Now in irrigating the eye it is not necessary to produce trauma. I am quite in sympathy with what Dr. Stevenson says concerning the possibility of having trauma if due care is not observed, but I do not believe that with reasonable care the ordinary nurse or the ordinary physician is going to be guilty of producing trauma of the cornea by irrigation, and without doubt irrigation is absolutely necessary in the treatment of this disease.

Dr. Mark D. Stevenson, Akron, O.: I am very grateful to the Section for this free discussion. Dr. Woods again reminded me to again call the attention of the Section to the use of holocain and not cocain. In the second page of my article I refer to the article which Dr. Alt so well described of Schneider concerning the formation of these leukeins, but there have been so many claims made for argyrol that I have not been able to substantiate. So far as argyrol being harmless is concerned, some of the most marked cases of argyria have occurred from its prolonged use. Weak solutions of silver nitrate do not do this. The weak solutions of silver which Dr. Alt refers to are used quite extensively, I think, in the New York hospitals. Personally I am inclined to agree with Dr. Jackson, who advised against the use of silver more than once a day, and I have not advocated it more than once a day. Dr. Woodruff, I learned, not from his discussion, pretended to prove that strong solutions of nitrate of silver, 10 per cent., if I am not mistaken, are best. Of course he could not use that with hooks and he must protect the cornea. My effort was to have every part of the conjunctival sac in contact with the silver solution, and in proper hands it can be done very safely. With regard to flushing, which seems to constitute the only difference of opinion, this was also my sheet-anchor in the treatment of ophthalmia neonatorum until the thought of free drainage, as in any other abscess, occurred to me. Take an abscess anywhere else the size of the eye and with an opening as large as that of the eye and you would have perfect drainage. It is true you may have a little pus collect in the fornices, but by opening the lids this rolls out. It is necessary, however, that the lids do not come together. Reference has been made to the importance of the condition of the patient, with which I agree. As Dr. Zentmayer and Dr. Thompson have pointed out, the patients that give us the most difficulty are the marasmic, the under-fed, the under-age type of patients. I think that is one of the particular reasons why flushing with its constant worrying of the little infant should be avoided. I recollect once in my former practice that I had it done every fifteen minutes to half an hour. I do not now see how an infant could live through it. And besides, we cannot have two trained nurses for many of these poor patients. Possibly you could attain that in the hospital and for the wealthy, but the poor mother and the ignorant mother can be very quickly trained to see that the lids are separated and a very little oil placed on the margin of the lids, thus securing perfect drainage. I have treated quite a number of patients without one drop of irrigation and never before had such results. My number of cases is limited, but before I stopped irrigation I was occasionally getting ulcers when they came to me with clear corneas, and that suggested to me that it was the slight trauma.

Dr. S. L. Ledbetter, Birmingham: How many eyes did you lose when you did thorough and complete irrigation and used argyrol?

Dr. Stevenson: I was so early disgusted with argyrol in other conditions that I couldn't compare it with silver nitrate. I used it, to my knowledge, in practically no cases. I do not know that I ever did treat any with argyrol.

THE SIGNIFICANCE OF RETINAL HEMORRHAGE

F. T. ROGERS, M. D., PROVIDENCE, R. I.

(Concluded from page 102)

ABSTRACT OF DISCUSSION

Dr. W. H. Roberts, Pasadena, Cal.: As each case of retinal hemorrhage comes under our care, we cannot at once catalogue it as regards prognosis or life expectancy, as each case will, to a certain extent, be a law unto itself. Each patient with this trouble deserves our most careful diagnosis and thoroughgoing treatment, and the results as regards life will often be surprising.

In the first year of the practice of my specialty Mr. T. G., aged 62, consulted me. His retina showed numerous scars from hemorrhages. His urine showed that he was having an acute exacerbation of a chronic parenchymatous nephritis. I gave a very unfavorable prognosis, saying that he would probably live less than two years. He was referred to a good general practitioner, who looked after his diet and mode of life, and the improvement in the patient's condition was remarkable. He lived a few months short of ten years.

Shortly after this I saw Mrs. A. G., aged 56, whose retina showed old scars from hemorrhages; whose vision in one eye was down to counting fingers at 3 feet, and whose urine was loaded with albumin. She lived nearly seven years after having been placed on a proper regime.

I have had under constant observation for nearly ten years a woman with a tuberculous history, blind in one eye from retinal hemorrhages, and subsequent retinal detachment—later retinal hemorrhages and retinitis proliferans in the other eye—who is a model patient, whose physical and mental condition is excellent, and who gives me every reason to believe she will live for years to come.

Mr. G. L. W. lived for eleven years after coming under observation for retinal hemorrhages from arteriosclerosis. Mrs. E. D. W. is in about the same condition to-day as when first seen six years ago, when her retina showed old scars, and fresh hemorrhages with albuminuria. Mr. H. B., aged 77, is still living, over five years after he came under my care for diabetic retinitis. These five cases from my records are reported to encourage us, first, to put forth every effort to help the unfortunate victims whose retinas show evidence of serious trouble there and elsewhere; second, not to make our prognoses too gloomy; and third, to consider each case separately without relation to any other, and to institute a careful line of treatment, with correct mode of life.

Dr. Melville Black, Denver: I presume that Dr. Rogers would not desire that we give such an unfavorable prognosis as an average of two years of life in a patient having a retinal hemorrhage. My experience has been that very much more can be done in this day and time, with our advantages in hygiene, with our advancement in pathology of these conditions, than when the old prognosis and methods used to obtain. I can recall many patients who have been living from ten to fifteen years and who are seemingly well to-day who have had retinal hemorrhages. I remember some others who are beneath the sod, but they are few, and I believe that now with our improved method of handling these cases we need not necessarily give the patient such an unfavorable prognosis. I certainly feel that it would be inadvisable to give a patient a prognosis of any length of time or any expectancy on his life. Sometimes they live twenty years and fool us, and those I see around me who have grown gray in the practice of ophthalmology I feel sure will be first to second the proposition that we should be very guarded in giving a time expectancy on life to our patients with retinal hemorrhage.

Dr. Mittendorf, New York: I hope that Dr. Rogers will not be angry with me if I do not quite agree with all he has said, because I have seen quite a number of cases of retinal hemorrhage at the age of puberty in young girls, and also in boys, that have not terminated as fatally as Dr. Rogers thinks they are apt to do. Of course these cases occurred long before the taking of blood-pressures was done. Of three patients, one consulted another doctor, the other was a young lady from West Virginia, whom I saw, and the other was a patient whom I see almost every day, who had these hemorrhages twenty or thirty years ago. Lately we have been taking blood-pressures where there is hemorrhage, and we have come to the conclusion that blood-pressure has little to do with these hemorrhages. I have found patients with hemorrhage in whom the blood-pressure was 135, and in those in whom the blood-pressure was 225 or more. The prospects for the future, I think, depend on the diseases that caused it—irregularity of the action of the heart, or rheumatism, or an atheromatous condition, naturally have their bearing, but a simple retinal hemorrhage I do not look on as a very serious affair.

DR. J. B. TIFFANY, Kansas City, Mo.: Like Dr. Mittendorf, in my experience in the last thirty years I have had quite a number of cases of retinal hemorrhage from what we might call vicarious menstruation. Most of the patients have improved under treatment; none has died.

DR. H. WOODS, Baltimore: Dr. Howard Kelly told me recently that he had never seen a case of vicarious menstruation and did not believe that such a thing existed. In the book published by Kelly and Noble it is stated that it is very doubtful if the so-called cases of vicarious menstruation will bear any investigation whatever; that in cases of menstrual disturbance—amenorrhea or dysmenorrhea—there is some underlying cause which can be ascertained. In my own paper which I shall read here later I shall have something more to say on the subject; but I think in the discussion of the significance of hemorrhages, either in the vitreous or elsewhere, we want to be careful how we put down as etiologic influences concomitant conditions without going back to the ultimate cause. For instance, amenorrhea associated with hemorrhage could not be attributed to vicarious menstruation until the cause of the amenorrhea had been discovered, and if it is not local, one must go back to the blood-examination or to the whole subject of the patient's metabolism before one can conclude just what it is.

DR. BRYAN, Omaha: The discussion has been confined to hemorrhagic retinitis. The only thing to which I wish to call attention is with reference to some cases of hemorrhagic retinitis following our common disease, grip. Several years ago we had an epidemic of this disease in our own city in which there were quite a number of cases of retinitis following this disease, and a number of these patients had hemorrhage. Most of the patients who came under my care were not very old. These went on to recovery and I have never heard anything about any serious trouble following. Then in the course of my long experience I have seen a great many cases of hemorrhagic retinitis, most of them in people past middle life, but, as the essayist says, some of them occurred early, and a few of these cases in my own practice recur to me. One was in my own brother, who at the age of about 35 had hemorrhagic retinitis in both eyes. He entirely recovered. That was eighteen years ago, and he has never had a recurrence. All of us, I think, can furnish cases in which the results have not been bad as far as life is concerned. Of course we can also report a great many cases in which death followed in a short time, but my experience is that death follows much sooner in patients past middle life than when it occurs before that period.

DR. WILLIAM ZENTMAYER, Philadelphia: I wish to place on record the statement of Dr. James Tyson, one of our highest authorities on renal diseases, made at the College of Physicians on the subject of albuminuric retinitis. He stated that he was quite convinced that the prognosis held by ophthalmologists was too grave entirely; that patients lived a great deal longer than an average of two years, and he thought it ought to be corrected. My own experience is not very large, but on the whole I would think that the prognosis of hemorrhagic retinitis, albuminuric, is very grave; that the majority of patients do not live much longer than two years. I have seen patients who lived longer. One, a foreman in a large printing establishment, had acute nephritis and numerous hemorrhages, and eleven years ago was under the care of Dr. Hare. He is now living. He never had a subsequent attack and is apparently in the best of health. Yet once I plumed myself in giving a prognosis in a man who had no occupation. I told his friend he would probably die in a short time. That man's physician accosted me on the street six months later and said, "Doctor, your patient died within six weeks of the time I brought him to the hospital." So that every case, as Dr. Rogers says, is a law unto itself.

DR. F. T. ROGERS, Providence: It is not often that an essayist is honored by such universal disagreement, and yet I take exception to one or two criticisms of the paper. Dr. Roberts states that statistics cannot prove anything, implying that my statistics have been looked at from the standpoint that the disease has serious import, and then he reports five cases of exactly the opposite thing. If a report of twenty-five cases in which 50 per cent. of the patients die in three years prove nothing, neither do five cases in which the patients live ten years prove anything. I wish to say that the conclusion I sought to draw was that the prognosis varies with the type of the disease. Conclusions drawn from albuminuric cases differ from those drawn from simple retinitis. The bad prognosis need not be given the patient, but to the friends, the family and the physician. I think it is better to be on the safe side. When I find out of seventeen cases of simple retinal apoplexy, six of them ranging over a period of ten years, six one year, four two years and one five years—that of the patients but ten were in their usual health, and the rest were either dead or in impaired health; and in hemorrhagic retinitis eleven out of twenty were in good health after ten years, and of five patients none was alive after ten years, and of ten patients with chorioretinitis none was alive after ten years, I feel that a menace hangs over such patients. It is not necessary to inflict our views on our patients; but if we realize that the condition is serious, yet do not know enough to treat it ourselves, we should request a careful examination and advice. If I have made this point clear, then I shall feel that I have not wasted my efforts in writing this paper.

Therapeutics

AMEBIC DYSENTERY

Another of the diseases which has recently been proved to occur much more frequently than was generally realized, among individuals living in all parts of the country, is that known as amebic dysentery. This has scarcely been recognized as an independent disease for more than a quarter of a century.

In 1875, Loesch, in St. Petersburg, identified the ameba in the stools passed by a patient suffering from dysentery. Eleven years later, Kartulis observed 150 cases in Egypt, and found the ameba in all. Osler found the ameba in 1890, and this was the first time that it had been observed in the United States.

It is now well recognized that certain cases of dysentery are definitely caused by the *Amœba dysenterica*. Schaudinn has published one of the most elaborate studies of this ameba which he distinguishes as *Entamœba histolytica*, and believes that it should be distinguished from the *Entamœba coli*, which does not produce dysentery, although there is some difference of opinion among different observers as to whether there is a pathogenic and an innocuous ameba.

The ameba is best obtained by scraping the rectal ulcers and examining microscopically the scrapings on a warm stage. The motility of the ameba is an important point in its distinction, and this ceases at a temperature of 70° F. If this method of obtaining a specimen is impracticable, the watery discharges, and especially the bloody mucus may be examined, but in many cases it is found with great difficulty under these conditions.

Formerly it was generally believed that amebic dysentery occurred only in the tropics, but the observations of recent years show that it is not by any means limited to tropical countries, but may be found in various parts of the temperate zone. It has been suggested that these cases occurring in temperate zones were due to infection brought from the tropics, especially by fruit which is eaten raw, like bananas, but that infection through bananas brought from the tropics does occur has not been scientifically demonstrated. It is more probable that the ameba maintains its vitality, although less energetically in the temperate zone than in the tropics, and that the cases of infection in the temperate zone occur through the drinking of water, and especially of water from wells, which have been contaminated by surface drainage.

The disease affects adults almost exclusively, cases among children being exceedingly rare. It also affects males more frequently than females. A common complication of the disease, especially in males, is abscess of the liver.

The disease may commence almost insidiously with a not excessive number of bowel evacuations each day, without very great pain and without the presence of very much blood or mucus, but a striking characteristic of the disease is its long duration. Patients may suffer from it not severely and may seem to improve, but they almost certainly relapse. Cases may last for months or even years, and be accompanied by extreme emaciation. There is no way of determining exactly the existence of this disease except by finding the motile ameba either in the stools or in scrapings from local lesions in the rectum.

The treatment of this disease has been the subject of extensive discussion and of extreme difference of opinion. British surgeons practicing in the tropics, and especially in India, have praised most optimistically the use of large doses of ipecac, and have praised it as a specific second only in importance to the value of quinin in malarial infection. Some observers in other countries and even in the United States have apparently verified the high esteem in which ipecac is held by British surgeons, but, on the other hand, many observers have condemned this drug as useless, or even injurious. It certainly would be exceedingly strange if so many men of wide experience should be mistaken in believing ipecac of value in the treatment of this disease. The fact seems to be that ipecac is useful in amebic dysentery, but less useful in other varieties of dysentery.

Ipecac is used in various ways, the patient, during its administration, of course, remaining absolutely quiet in bed. Some recommend preceding the administration of ipecac by a hypodermatic injection of morphin, given about half an hour before the ipecac. Some advise giving the ipecac in pills or capsules covered with salol. The usual dose is from 3 to 4 grams (from 45 to 60 grains). This should be given at night, and the dose, diminished daily by 0.30 gram (5 grains), should be repeated each evening until the dose has been reduced to 0.60 gram (10 grains). This dose of 0.60 gram (10 grains) may then be continued for two weeks. This method has been found very satisfactory by Dr. Sidney K. Simon, of New Orleans, who described his method of treatment in THE JOURNAL, Nov. 6, 1909, page 1526.

In just what way the ipecac produces its beneficial effect has not been determined, but it seems probable that either it, or some product resulting from its decomposition, inhibits the development of the ameba.

The general treatment of amebic dysentery is the same as that of bacillary dysentery, given in THE JOURNAL last week.

It is sometimes advisable to administer a laxative with the idea of removing the amebas from the intestinal canal. Castor oil has been recommended for this, but probably one of the salines, either the sulphate of magnesium or sulphate of sodium, is preferable. A good combination is the following:

R	Gm. or c.c.		
Magnesii sulphatis	25|		℥i
Acidi sulphurici aromatici.......	10|	or	fl.ʒiiss
Syrupi zingiberis	50|		fl.℥ii
Aquæ ....ad	100|		ad fl.℥iv

M. et Sig.: One teaspoonful in water every four hours.

This will have a laxative effect with a secondary astringent effect, due to the sulphuric acid.

Bismuth subcarbonate may be administered in large doses, but the value of this is often problematical. However, if the inflammation is in the cecum or has migrated into the ileum, the bismuth is probably of value. Bismuth, however, must not be too long continued, as it tends to form scybalous masses and cause more irritation and more inflammation.

If the movements are very frequent, or there is much pain, sulphate of morphin may be administered subcutaneously, or suppositories containing extract of opium may be used, as in the following prescription:

R	Gm. or c.c.		
Extracti opii	|60		gr.x
Olei theobromatis	20|	or	ʒv

Fac suppositoria 20.

Sig.—Use one suppository every four hours, if needed.

But far more important than these internal laxatives, astringents, and sedatives is the local treatment. This consists of enemata given with the idea of washing out the rectum and irrigating and cleansing the entire colon. The use of a simple salt solution, distinctly stronger than physiologic saline (which is about 0.7 per cent.) is recommended by many for washing out the rectum and colon, and is believed to have some destructive effect on the amebas. This destructive action is greatly increased if the enema is administered at the low temperature of 70° F., at which temperature the ameba finds it difficult to continue life. Water of this temperature may be used in the rectum, but should not be used in the colon.

Sulphate of quinin is believed by many to be specific in its destructive action on the ameba, and is much used for irrigating the rectum and colon. It should be used in a 1 to 5,000 to 1 to 1,000 solution. Cures are believed to have been effected by such irrigations in many cases.

If, in spite of the remedies which have been enumerated, the case still continues rebellious, resort to surgical interference may be deemed advisable, and appendicostomy may be performed, and irrigation of the colon by means of the insertion of an irrigation tube through the appendix may be practiced. This was referred to in THE JOURNAL, Sept. 3, 1910, page 858.

Great care and patience are required in the treatment of this disease, and the treatment should be long continued, and after the patient is apparently cured, he should be kept under observation for months in order that, if a relapse occurs treatment may be promptly instituted.

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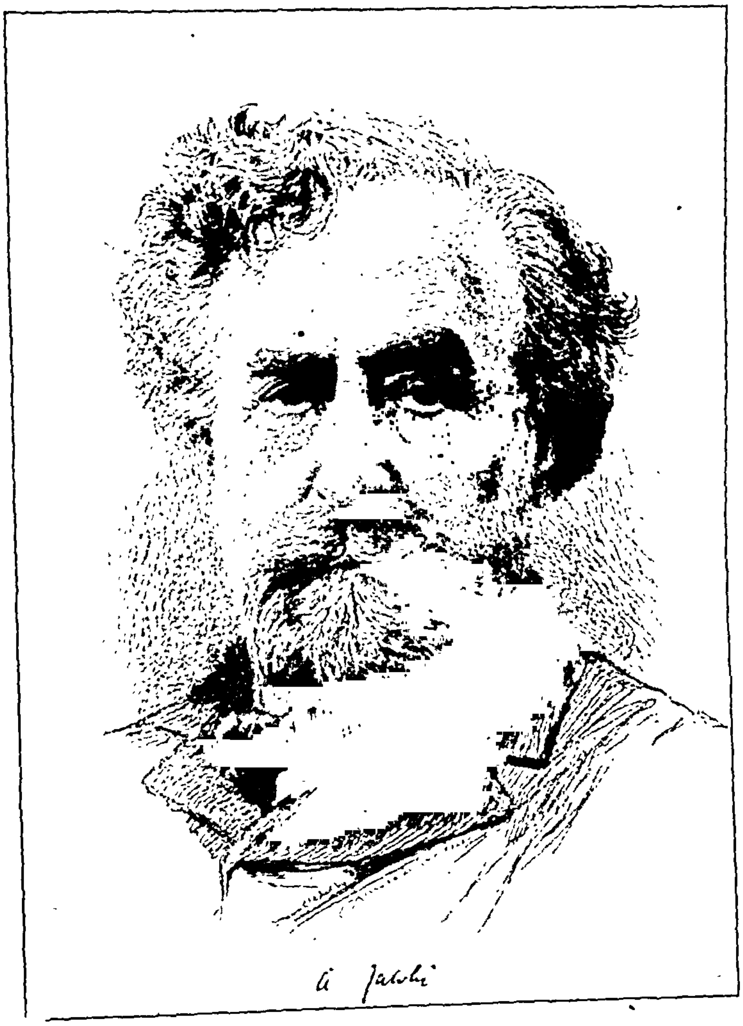
[*For other information see second page following reading matter*]

SATURDAY, JULY 8, 1911

PRESIDENT-ELECT JACOBI

A mutual honor in the highest sense of the term was the election at Los Angeles of Dr. Abraham Jacobi to the presidency of the Association. Few, if indeed any, men in the American medical world to-day can look back on as active a life as that of Jacobi. As a teacher, practitioner, hospital physician and worker in medical organizations he has been a leader for half a century.

His contributions to medical literature, which are legion and internationally well known, his brilliant attainments as a practitioner, his organizing and administrative talents, and last, but not least, his tremendous activity as a public-spirited citizen of his foster-land betoken a career unique in our annals. Now, at the age of eighty-one, is conferred on him the highest honor which the medical profession in America can bestow on any of its members.



PRESIDENT-ELECT ABRAHAM JACOBI

Born at Hartum bei Minden (Westphalia) May 6, 1830, he belongs to a generation which produced more great men than perhaps any single generation before in European history, that namely which created the revolution of '48. In appreciation of his idealism, Jacobi, like so many others, in the years 1851-53 was imprisoned again and again, but when finally liberated he, like Carl Schurz, Siegel and Krackowizer, sailed for America, henceforward the center of his hopes for the future, landing in this country as an unknown and all but penniless exile.

He had taken his M.D. degree at Bonn with a dissertation "De vita rerum naturalium" before his imprisonment in 1851, and at once entered on practice as a physician in New York City, soon becoming well known in his profession. In 1857 he became a lecturer on infantile pathology in the College of Physicians and Surgeons, and in 1860 he was called on by the New York Medical College to occupy the first chair established for the diseases of children in America. In 1870 he resigned to become clinical professor of the same branch in the College of Physicians and Surgeons, occupying this chair until 1902, when he was made emeritus professor. In 1895 he was offered the chair of pediatrics in the University of Berlin, but declined the honor, feeling that the ties binding him to America were too strong.

To review in detail the career of Abraham Jacobi, however, would be to touch on every important phase of progress of American medicine during the last half century. We shall here point only to the facts that he has done more than any other man to place pediatrics on a firm and scientific basis by his epoch-making conception of infant-feeding which he calls "the most important and momentous question of all times and before all nations," and that he was the first in this country to inaugurate systematic and special clinics for the diseases of children.

In medical societies Dr. Jacobi has been active and prominent. He has been president of the New York Obstetrical Society, the Pathological Society, the county society, the state society, the New York Academy of Medicine, the American Pediatric Society, the Association of American Physicians, the Deutsche medizinische Gesellschaft of New York and the American Climatological Association. He was a prime mover in the founding of the section on pediatrics of the American Medical Association in 1880, of the section on pediatrics in the New York Academy of Medicine and of the American Pediatric Society. He is an honorary member of innumerable societies in this country and abroad. Few American medical men have been so prominent at international meetings as Dr. Jacobi.

His life-long friend, and comrade of 1848, Carl Schurz, once hailed him as "the personification of scientific conscience and the personification of civic conscience." This saying is sufficient justification, if any were needed, for the choice of the Association.

THE PUBLIC AND THE PUBLIC HEALTH

The ready response of the public to appeals for better health conditions is a most surprising and gratifying result of the rapidly altering state of public opinion on health matters. The people are ready for any reforms. Recent examples of this fact will readily occur to those who have been watching public health progress. One of these is the recent remarkable crystallization of public opinion on the common drinking-cup; another is the equally rapid progress of the campaign against insect carriers of disease and especially of flies. These pests have been causing annoyance and disgust to all cleanly-minded people, as well as distributing diseases, for centuries. If anyone had predicted ten years ago that great American newspapers and civic organizations would inaugurate a definite campaign against flies, he would have been regarded as hopelessly visionary. Yet the American Civic Association has established a "Fly-Fighting Committee," has reprinted an article on "The House-Fly as a Carrier of Disease" from the *Annals of the American Academy of Political and Social Science*, has distributed instructions on how to conduct an anti-fly campaign, and has sent out a special bulletin entitled "Kill Flies and Save Lives." It is surely a promising indication when so learned a body as the American Academy of Political and Social Science considers an article on the house-fly worthy of a place in its periodical.

Accompanying the literature sent out by the Fly-Fighting Committee of the American Civic Association is a request that all persons going to summer resorts write the proprietors of summer resort hotels, making definite inquiries as to health conditions at these places. The danger of summer resorts as centers of infection is well recognized. Many a local commissioner of health has earnestly and successfully striven to eradicate typhoid fever in his city only to find each fall an outbreak of disease following the return of summer resorters, who had become infected during their stay in the country by dirty water or milk, unwashed vegetables, flies or other means by which typhoid is distributed. The committee asks all those contemplating a trip to summer resorts to write a letter similar to the following to all summer resort proprietors.

> Before making plans for the summer vacation I wish to be assured that the sanitary conditions of the resort which I select are such as to make my stay permanently beneficial as well as pleasant for the time being. Will you, therefore, kindly advise me what are your sources of water-supply and your methods of sewage and garbage disposal? I prefer to spend my vacation where I need have no fear of malaria from mosquitoes, or typhoid fever from flies and polluted water-supply. Is your drinking-water protected from contamination by your own sewage or that of others, and are your guests protected from flies and mosquitoes, not only by screens for doors and windows, but by precautions taken to prevent the breeding of these insect pests in your neighborhood?
>
> You are doubtless well informed as to the dangers of health arising from neglect of the sanitary precautions on which physicians are now laying much stress; nevertheless, I take the liberty of sending you some recent literature on the subject, which may give you suggestions for the further improvement of local conditions; for I believe you will agree with me that whatever raises the reputation of a resort for healthfulness, raises the revenues of its proprietor.

More and more is the campaign for better health conditions becoming one of economics rather than of sentiment. As soon as hotel and boarding-house keepers are convinced that cleanliness is profitable and that filth will diminish their receipts and increase their expenses, perfect sanitary conditions in summer resorts will become as much a business asset as are pine woods, beautiful lakes, cool breezes and low temperature.

ACUTE THYROIDITIS

It is only within comparatively recent years that we have come into possession of any definite knowledge of the physiology of the thyroid gland, and this has been attained principally through observation of diseased conditions or aberrant function and animal experimentation. That the gland has an internal secretion and that this plays a most important part in the animal economy has been demonstrated beyond peradventure of doubt and is universally admitted.

There is, however, still room for additions to our knowledge in this field, as well as in that of the diseases of the thyroid gland. In rare instances the gland is congenitally wanting. Abnormal configuration or size is less common. Supernumerary glands are at times present. Varying degrees and forms of atrophy or degeneration take place, as a rule in the later periods of life. Goiter is the most common pathologic deviation, and it may be structural (hyperplastic or neoplastic) or vascular (circulatory). Transitory hyperemia of the thyroid gland is frequently observed in women, especially at puberty and during menstruation and pregnancy. Inflammation of the thyroid gland appears to be a rare disorder, although in minor grades it may be a more common accompaniment of infectious processes than the clinicopathologic evidence would indicate. Moreover, it is not impossible that some of the degenerative or atrophic conditions of the gland resulting in myxedema, adiposis and allied affections may have such an origin.

An interesting discussion of the subject, based on a personal experience with three cases and an extensive study of the literature, is presented by Dr. W. Sibbald Robertson.[1] As this observer points out, a distinction is to be made between acute thyroiditis and acute strumitis, accordingly as a previously healthy gland or one already the seat of goiter is attacked. In all probability, the latter condition constitutes a predisposing influence. Sometimes the disorder occurs as an epidemic. It is, like goiter, more common in women than in men. Generally it is a complication or sequel of some infectious disease, although at times it appears to be idiopathic, that is, the causative factor eludes detection. The essential symptoms are local pain, swelling and discoloration, together with dyspnea and dysphagia. The voice may be affected and there may be irritative cough, with blood-streaked expectoration or actual hemoptysis. The morbid process terminates by resolution or suppuration or even gangrene. Recovery, though not invariable, is the rule. Treatment comprises attention to any preexisting disease, with observance of rest and application of local sedatives. Tracheotomy, with the introduction of a tube, may become necessary for the relief of respiratory obstruction. Suppuration demands immediate and radical surgical intervention.

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[1] Robertson, W. S.: Lancet, April 8, 1911, p. 930.

Current Comment

A SANER FOURTH

Thanks to the country-wide agitation for a saner Fourth, the immediate newspaper reports of the annual sacrifices to the use of fireworks indicate that they are less in number this year than for many years. The American Medical Association is gathering all possible reports of injuries and of tetanus following them. Deaths from tetanus always swell the report considerably during the ensuing six weeks. It is hoped that the final total also will be much less this year. Everyone who has assisted in improving conditions is entitled to credit and is rejoicing over the lives that have been saved. The success of the substituted programs indicates that the "insane Fourth" can be more and more eliminated until it disappears.

THE LOS ANGELES SESSION

The Sixty-Second Annual Session of the American Medical Association, held at Los Angeles, California, June 26-30, 1911, has passed into history as a very successful affair. The attendance was much beyond expectations, and an unusually large proportion of members were accompanied by their wives and daughters. Especially considering the location of the meeting-place, the attendance was a surprise to many. Also, contrary to the expectation of some, the weather was delightfully cool and pleasant. Although some discomfort was felt on the trip across the plains, Los Angeles had ordered cool and comfortable weather and the order was filled. The social side of the meeting was on a lavish scale and quite ably managed. Our Los Angeles confrères have indeed set a high standard in this regard. The proceedings of the House of Delegates took place with despatch and many important matters were decided. The official minutes of the House were commenced in The Journal last week, thirty-two pages being devoted to them. They are continued in this issue. The scientific work at Los Angeles was excellent and the Sections were well attended. A number of Section articles are published in this issue of The Journal and the rest of the proceedings will be given as fast as possible. We take pleasure in presenting in these columns a picture of the President-Elect, Dr. Jacobi, and a sketch of his life. A full list of the officers elected will be found in the proceedings of the House of Delegates of Thursday afternoon. Those who attended the Los Angeles session are now either reaching their homes or lingering in the various resorts of the West, but the memories of the Sixty-Second Annual Session will abide with them for a long time to come.

THE DISINFECTION OF WATER-SUPPLIES

The increasing use of hypochlorite for the purification of drinking-water supplies makes the subject of proper methods of applying this and other chemicals a timely one. The usual method of introducing the disinfectant into the suction-pipe or suction-well has not proved altogether satisfactory owing to the injury to the pump-valves, and other difficulties. An ingenious device for applying chemicals directly to water flowing in pipes under pressure is described in a recent number of the *Engineering News*.[1] The principle of the apparatus consists in so regulating the pressure by mechanical contrivances that the solution is forced through the feed-pipe at a rate always proportional to the existing rate of flow through the main.

THE PROPHYLAXIS OF BLINDNESS CAMPAIGN

Another forward step in the warfare on preventable blindness is evident in the advance copy just received of the first issue of the *Monograph Series of the American Association for the Conservation of Vision*. The chief article in this first issue is a study by the Research Department of the Boston School for Social Workers, "Ophthalmia Neonatorum in Ten Massachusetts Cities," by Henry Copley Greene. Our own Dr. F. Park Lewis, who has been working so faithfully along this line, contributes a preface. The enlightenment of the profession and of the public on this important question is a work to receive the aid of all, and we are glad to see this pamphlet in circulation.

A Mechanical Vitalistic View.—The weight of such evidence as we have seems to favor a modified vitalist, or it might be called mechanical vitalistic view. All vital activity is measurable in terms of energy expended. An infinite chain of physical causation determines every vital movement. No power of self-determination beyond such causation could exist without the power to create energy. The activity of the organic mechanism may be suspended indefinitely and again revived if no disarrangement of its constituent particles occurs. On the other hand, no mathematical laws can be conceived of which could express the operation of the forces which direct the life-history of the individual. Are we not brought back to the old theistic or deistic conception of an inscrutable power pervading all nature in whom we live and move and have our being? (Walter S. Nichols, in *Science*, June 2, 1911.)

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[1] Engineering News, May 25, 1911, p. 619.

Medical News

CALIFORNIA

Alumni Meeting.—At the annual meeting of the Alumni Association of the College of Physicians and Surgeons, held at San Francisco, twenty graduates were admitted to membership. The following officers were elected: president, Dr. B. Rosen; vice-presidents, Drs. S. Wassilko and J. H. Flint; secretary, Dr. Charles M. Troppmann; treasurer, Dr. H. A. Mager; executive committee, Drs. Fred C. Keck, W. A. Colburn, S. B. Fontaine, O. H. Hoag, Jr., R. G. Dufficy, John H. Adams and Thomas Fleming.

A New Clinic.—A free clinic and dispensary has been opened in San Diego for the treatment of general medical and surgical cases. The clinic is to be known as the Talent Workers' Clinic, and is conducted jointly by the San Diego County Medical Society and a charitable organization known as the Talent Workers, whose ultimate aim is the establishment of a large general hospital for both charity and pay patients. Several rooms have been fitted up in the same building as is occupied by the Antituberculosis Clinic and the Associated Charities of San Diego, which will aid in looking up the standing of applicants for treatment.

Personal.—Dr. Edward C. Beach, physical instructor of the Los Angeles High School, has been appointed summer physical instructor of the Berkeley playgrounds.——Dr. and Mrs. George Ellery Hale, formerly of Pasadena, have returned from Europe. They expect to make a tour through Canada before returning home.——Dr. Gordon Grundy, Long Beach, who has just completed his medical course at Magill University, will sail for Europe soon.——Dr. Eugene Campbell, Los Angeles, was run down and painfully injured in an automobile.——Dr. Everett R. Smith, Los Angeles, has successfully undergone a severe surgical opertion at Minneapolis and will soon return home.——Dr. Charles F. Gladding, Oakland, who took 5 grains of morphin, June 14, is reported to be recovering at Providence Hospital.——Dr. William J. Walsh, San Francisco, was seriously injured when an automobile in which he was driving went over a high bluff.

ILLINOIS

Personal.—Dr. James A. Egan became the permanent secretary of the State Board of Health under the civil service law, which went into force on July 1. Dr. J. C. Westervelt, assistant secretary, and the thirty-three other officers and employees of the State Board of Health also came under the classified service, and are not subject to removal or discharge except for cause.

LOUISIANA

Tropical Medicine.—Ever since the meeting of the American Society of Tropical Medicine in New Orleans, a movement has been under way to raise a fund for the endowment of a chair of tropical medicine at Tulane Medical College. Local physicians have been urging a school of tropical medicine in New Orleans. This city being so closely allied to the tropical countries, and with Central American trade developing rapidly, the need for thorough scientific knowledge of the diseases originating in the tropics is recognized. The Liverpool School of Tropical Medicine is cited as an agency which has done more to foster English trade in the tropics than her warships and merchantmen. The local project is under the direction of Dr. Isadore Dyer, dean of the medical college. One contribution of $5,000 is reported. New Orleans merchants say this move, together with the operation of the newly organized Mississippi Valley, South America and Orient Steamship line, which is to be known as the Pan-American Mail, will do much to encourage commerce between North, Central and South America.

MAINE

Hospital Fund Raised.—A fund of $31,771 to complete and furnish the Webber Hospital, Biddeford, was raised by a local committee in that town and Saco in nine days and the new hospital will be opened this summer.

Antituberculosis Association Asks Appropriation.—The Androscoggin Antituberculosis Association, at its annual meeting held in Lewiston, reported that the association had spent about $1,000 during its first year, and voted to ask for an appropriation of $5,000 a year from the state for two years to extend the work of the association through Androscoggin County.

MARYLAND

Society Holds Banquet.—The first annual banquet of the Howard County Medical Society was held at Ellicott City, June 22. There was a large attendance from Howard and adjoining counties. Those who spoke were Dr. Joseph Clement Clark, Sykesville; Dr. William B. Ganbrill, Ellicott City, and Judge William Henry Forsythe, Jr.

Baltimore

Building Enlarged.—The administration building of the Johns Hopkins Hospital will be enlarged by a three-story brick and stone building for the use of the superintendent.

Personal.—Dr. William J. Coleman has been chosen superintendent of the hospital of the University of Maryland.——Dr. Gordon Wilson has been elected professor of clinical medicine of the medical department of the University of Maryland.——Dr. Julius W. Schlieder is rapidly failing as the result of an infection contracted while operating on a patient with Banti's disease.——Dr. Marshall L. Price received the honorary degree of master of science from Washington College, Chestertown.

From Johns Hopkins to Washington University.—Dr. Willis D. Gatch, assistant resident surgeon at Johns Hopkins Hospital, has been appointed resident surgeon at Washington University, St. Louis.——Dr. James S. Brotherhood, formerly assistant resident physician at Johns Hopkins Hospital, has been appointed resident physician at the Washington University, St. Louis.——Dr. Roger S. Morris, associate in medicine at Johns Hopkins University, has been appointed associate professor of medicine in Washington University.

MICHIGAN

County Society.—The Charlevoix County Medical Society has been organized. The officers elected are: president, Dr. Robert B. Armstrong; vice-president, Dr. Charles A. Montague; secretary, Dr. Allan M. Wilkinson; treasurer, Dr. Levi Lewis.

Personal.—Dr. Richard J. Hamlen, Detroit, is recovering from an attack of pneumonia and will take up his practice in a few days.——Dr. Malcolm Graham, Jonesville, was seriously injured by being thrown from his wagon, striking on his head and causing concussion of the brain.——Dr. and Mrs. Robert E. Miller and son sailed for Europe, June 15.——Dr. Edward C. Greene, Pontiac, assistant physician at the East Michigan Asylum for the Insane for seven years, has resigned.——Dr. Theodore E. Sands, Battle Creek, has undergone an operation for mastoiditis and is seriously ill.

MISSOURI

Personal.—Dr. Richard L. Sutton, Kansas City, will sail for Europe, July 15.

Missouri Tuberculosis Association.—At a recent meeting of the board of directors of the Missouri Association for the Relief and Control of Tuberculosis, of which Dr. Herman E. Pearse, Kansas City, is president, various working committees were appointed and plans of work outlined. The association expects to reduce the death-rate from tuberculosis in the state by lectures delivered by the medical profession and by publicity of the press on consumption. Segregation of the indigent tuberculous is advocated. Miss Winifred Doyle, secretary, was elected a delegate to the tuberculosis congress in Denver, where she was to read a paper.

St. Louis

Personal.—Dr. Max Meyer left for Montreal, Canada, June 26, en route for Europe.——Dr. Rolla Henry, assistant dispensary physician, was appointed chief physician by the hospital board.——Dr. Clive D. Scott, chief dispensary physician, has resigned to enter private practice.

NEW JERSEY

New Tuberculosis Hospital.—Before the Tuberculosis Hospital at Soho is opened there will be a public inspection of the institution, June 27-28. It is hoped to receive the first patients the early part of July.

Personal.—Dr. Stephen A. Disbrow, Ocean Grove, was seriously injured in an automobile collision, June 19.——Dr. Frank T. Neer, Paterson, has been assigned to the position of assistant surgeon in the Fifth Regiment, Paterson battalion.

Loving Cup for Staff Surgeon.—Dr. Joseph S. Baer, a member of the surgical staff of the Cooper Hospital, Camden, and one of the leading physicians of that city, was presented with a silver loving cup by his colleagues on the staff. Dr. Baer has severed his connection with the hospital and is about to start for California to regain his health.

NEW YORK

Personal.—Dr. W. Taylor Cummins, formerly of the pathologic department of the University of Pennsylvania, is in the new department of preventive medicine, Research Laboratories of the Health Department of New York.

New York City

New Building for Hospital.—A block on East Sixty-Sixth street has been purchased by the Federation of Russian Polish Hebrews of America on which it is proposed to erect new buildings for the Beth David Hospital. The new hospital will contain 150 beds and will be free to the poor.

Alumni Election.—The Society of the Alumni of Bellevue Hospital, at its 215th stated meeting, elected the following officers: president, Dr. H. Seymour Houghton; vice-president, Dr. J. Clifton Edgar; treasurer, Dr. Robert J. Wilson; secretary, Dr. Claude A. Frink, and historian, Dr. Robert James Carlisle.

To Have Board of Inebriety.—The board of estimate has approved the report of Bureau President McAneny, recommending that under the law passed one year ago, a board of inebriety be appointed to provide for the establishment of a system for the scientific handling of the problem of public drunkenness. The law provides for the establishment of a hospital and home for inebriates.

New Contagious Disease Hospital.—The new contagious disease hospital on Ellis Island, constructed at a cost of over $75,000, by the United States Government, and designed for the exclusive use of immigrants suffering from contagious diseases, especially measles, diphtheria and scarlet fever, was opened June 22. There are sixteen measles wards with room for 480 patients. The diphtheria and scarlet-fever patients will be accommodated in detached pavilion wards.

Need Hospitals for Tuberculosis.—Frank H. Mann, secretary of the Committee on Prevention of Tuberculosis, Charity Organization Society, says that the tuberculosis situation in the city is critical. It is estimated that at least 7,000 beds are needed immediately and there are at present only 3,200. Requests are before the board of estimate and apportionment to increase the facilities in the tuberculosis hospitals under the control of the department of health and of the department of public charities.

Infant Mortality.—Statistics for the week ending June 10 show that there were thirty-seven deaths from diarrheal diseases of babies under 1 year of age in the entire city, as compared with forty-three for the corresponding week of last year. During the week ending June 17, there were fifty deaths from the same cause, as compared with ninety-one for the corresponding week of 1910. The week ending June 24 showed a striking decrease in deaths from diarrheal diseases of children under 5 years of age, as compared with the corresponding week last year, there being sixty-one deaths this year and 136 last year.

NORTH CAROLINA

Alumni Banquet.—The alumni banquet of the North Carolina Medical College was a pleasant feature of the annual meeting of the state society. Covers were laid for 110 guests. Dr. J. Howell Way, Waynesville, made the principal address on "Loyalty to the College."

Personal.—Dr. Edward B. Clement, Salisbury, has located in Atlantic City, N. J., where he will be associated in practice with Dr. W. Blair Stewart.——Dr. J. Howell Way, Waynesville, has been elected a trustee of Trinity College at Durham.——Dr. Thomas A. Mann, health officer of Durham for several years, has resigned. He will be succeeded by Dr. William H. Boone, Morrisville.——Col. J. L. Ludlow, Winston, for many years past the civil engineer of the State Board of Health, was elected to honorary membership in the State Medical Society.

State Society Meeting.—The fifty-eighth annual session of the Medical Society of North Carolina was held under the presidency of Dr. Chalmers Van Poole in Charlotte, N. C., June 20-22. The annual address of the president strongly advocated higher preliminary education for prospective medical students. Public health and sanitation were given a not inconsiderable portion of the time. Dr. Thomas E. Anderson of Statesville was reelected a member of the State Board of Health for the term of six years, succeeding himself. Dr. Charles J. O'Hagan Laughinghouse of Greenville was also elected for a term of six years, succeeding Dr. George G. Thomas of Wilmington. The board reorganized and elected Dr. J. Howell Way of Waynesville, president, for a term of six years. The following officers were elected: president, Dr. Alfred A. Kent, Lenoir; vice-presidents, Drs. John P. Munroe, Charlotte; William P. Horton, Northwilkesboro, and J. Gerald Murphy, Wilmington; essayist, Dr. Richard N. Duffy, Newbern, and orator, Dr. John Hill Tucker, Charlotte.

OHIO

Personal.—Dr. Edward W. Walker, after a service of twenty-nine years, has resigned his position on the surgical staff of the Cincinnati Hospital. Dr. A. I. Carson was elected to his place, and Dr. Goodrich B. Rhodes was elected junior surgeon.——Dr. Christian R. Holmes, on the eve of his departure for Europe, was given a dinner by the professional and business men of Cincinnati, as a compliment for his work in making possible the new City Hospital.——Dr. Claude Lyons has accepted the position of assistant surgeon to Dr. Charles S. Means, Columbus.

Cleveland

Hospital Notes.—At the dedication exercises of the Central Dispensary and Milk Laboratory of the Babies' Dispensary and Hospital of Cleveland, Dr. Hastings H. Hart of the Russell Sage Foundation and Dr. J. Mason Knox, president of the National Association for the Study and Prevention of Infant Mortality, were the principal speakers. Plans for the erection of the Babies' Hospital were also made public.

OREGON

State Association Meeting.—The Oregon State Medical Association will hold its annual meeting in Portland, July 10-12. The program is to be of special value as it is to be filled largely by medical men from other sections of the country who are returning by northern routes from the meeting of the American Medical Association at Los Angeles. Great preparations have been made for the entertainment of the delegates and visitors.

Personal.—Drs. Eldred B. and Clara Waffle have started for Europe.——Dr. Fred A. Lienallen, Pilot Rock, has entirely recovered after his recent operation for appendicitis.——Dr. William T. Phy, Hot Lake, has retired from the management of the Hot Lake Sanitarium, La Grande, and has located in Spokane, Wash.——Dr. P. H. Fitzgerald, Gervais, has succeeded Dr. Harvey J. Clements as superintendent of the Sanatorium for the Prevention of Tuberculosis, Salem.

Portland

City and County Medical Society.—The City and County Medical Society of Portland, Ore., held its annual meeting May 15, and elected the following officers: president, Dr. William House; vice-president, Dr. Noble Wiley Jones; secretary, Dr. George S. Whiteside, who succeeded himself; treasurer, Dr. Katherine C. Manion, who was also reelected; to the board of councilors were elected, Dr. Aaron Tilzer, Dr. Frederick A. Kiehle, Dr. Mae H. Cardwell and Dr. Eduard P. Geary. The meeting concluded with a banquet in the dining hall of the Commercial Club, at which a movement was started looking to the purchase of a site, and erection of a building for use of the medical societies, and to be owned by the medical profession. Pledges were given to the amount of $15,000 and a committee was appointed to raise funds to complete the requirement.

PENNSYLVANIA

Physicians Sued.—The state health authorities of Lancaster have brought suit against a number of physicians for alleged failure to report births to the registrar of vital statistics as required by law.

Society Election.—The Warren County Medical Society held its monthly meeting at Youngsville, June 15. The officers are: president, Dr. Irving Hyer, North Clarendon; vice-presidents, Dr. Edwin S. Africa, Warren, and David H. Keller, Russel; treasurer, Dr. Charles W. Schmehl, Warren; censors, Drs. Christian J. Frantz, Edward B. Shellenberger and James Cass, Warren.

The Health Department's Statistical Work.—The work of the Bureau of Statistics of the Department of Health for 1910 shows that 541,721 records were received and tabulated. Of these 401,459 were indexed and permanently filed; 119,771 certificates of death were issued, 9,560 certificates of still births, 209,636 certificates of births; 62,492 transcripts of marriages were made, 140,262 reports of communicable diseases were received, 3,185 certified copies of certificates were issued and $1,592.50 received for the same and returned to the state treasurer. The return to the state for certified copies should in a few years make this bureau largely self-supporting.

Personal.—Dr. Robert R. Roth, New Castle, has been appointed surgeon for the Pennsylvania Railroad.——Dr. James P. Kerr, Pittsburg, has been named a member of the city council.——Dr. William G. Adair, Pittsburg, is recovering from blood-poisoning developed from an injury he received while operating on the throat of a patient.——Dr. John D. Stevenson, Alequippa, has gone to Boston to take up postgraduate work at the Harvard Summer School.——Dr. and Mrs. Francis H. Brobst, Reading, have left for a two-year trip around the world.——Dr. James L. Patterson, Philadelphia, was presented with a loving cup by the Alumni Association of the Chestnut Hill Academy.——Dr. W. A. Backenstoe has returned to his home in Emaus, after spending seven and a half years in medical missionary work, under the Methodist Board, in Natal, South Africa. He is on a two years' furlough.

Philadelphia

Hospital Report.—According to a recent report of the Medico-Chirurgical Hospital, a total of 86,664 patients have been treated in the institution, as compared with 75,221 last year, an increase of 12,444.

Officers Elected.—At the annual business meeting of the Alumni Association of Jefferson Medical College, the following officers were elected: president, Dr. Randle C. Rosenberger; vice-president, Dr. John W. West; corresponding secretary, Dr. Henry K. Gaskill; recording secretary, Dr. Edward Klopp, and treasurer, Dr. Alfred Heineberg.

To Aid Hospital.—In order to relieve the deficit of the Germantown Hospital which last year amounted to $16,000, the managers have devised a plan to interest the public in the institution. They have sent out a small book, entitled, "Pass It On. A True Story and Its Lessons." It describes a serious accident, and tells how the injured person was taken to the Germantown Hospital and cared for by the surgeons and nurses.

New Medical Library in the Northeast.—At a recent meeting of the library committee of the Philadelphia County Medical Society, it was unanimously decided to open a new medical library July 1 in the branch of the Free Library of Philadelphia, 4668 Frankford Avenue, which is the meeting-place of the Northeast Branch of the Philadelphia County Medical Society. One hundred and sixty volumes have been placed on the shelves, and six journals will be received regularly.

County Society Elects Delegates.—At the quarterly business meeting of the Philadelphia County Medical Society held June 21, the society elected the following delegates and alternates to represent that body at the state medical meeting to be held in Harrisburg in September:

Delegates: Drs. William M. Welch, John B. Roberts, Charles A. E. Codman, J. Torrance Rugh, Clarence P. Franklin, Levi J. Hammond, Henry D. Jump, James Thorington, Wilmer Krusen, William S. Newcomet, John F. Roderer, Howard D. Geisler, Frank Embery and William N. Bradley.

Alternates: Drs. Edward R. Stone, Daniel A. Modell, William T. Hamilton, James N. McKee, Herman B. Allyn, T. Turner Thomas, Joseph S. Gibb, William S. Higbee, John W. West, William E. Parke, Stuart C. Runkle, John D. McKean, George A. Knowles, J. W. McConnell, H. R. M. Landis, Frank C. Hammond, John Leedom, Jesse O. Arnold, John T. Walker, G. Mason Astley, W. Harmer Good, Thomas R. Currie, William H. Randall, Josephus T. Ullom, W. L. C. Spaeth, Albert C. Buckley, Morris B. Cooperman, and Max Staller.

SOUTH DAKOTA

State Society Meets.—At the annual meeting of the South Dakota Medical Association at Aberdeen, June 16, the following officers were elected: president, Dr. William G. Smith, Sturgis; vice-president, Dr. Charles E. McCauley, Aberdeen; secretary, Dr. Frederick A. Spafford; treasurer, Dr. Robert D. Alway; councilors, Drs. James B. Vaughn, Castlewood, and James Roane, Yankton. Mitchell was selected as the place for the 1912 meeting.

GENERAL NEWS

Medical Corps Dines Militia.—The officers of the Medical Corps, United States Army, stationed at the maneuver division, San Antonio, gave a dinner at the St. Anthony Hotel, May 23, to the medical officers of the organized militia detailed for duty at the camp. Eighty were present and Lieutenant Colonel Henry P. Birmingham, chief surgeon of the division, acted as toastmaster.

National Tuberculosis Association Meets.—The National Association for the Study and Prevention of Tuberculosis held its meeting in Denver, June 20-21, and elected the following officers: president, Dr. Mazyck P. Ravenel, Madison, Wis.; vice-presidents, John M. Glenn, New York, and Dr. George Walker Holden, Denver; secretary, Dr. Henry Barton Jacobs, Baltimore; treasurer, Dr. George M. Sternberg, Washington, D. C.

Distribution of Small-Pox.—Out of nearly 20,000 cases of small-pox reported in the United States during 1909, there were ninety-two deaths, equivalent to a mortality of less than a half of 1 per cent. There were 2,197 cases in Kansas, 2,135 in Illinois, 1,854 in Utah, and 1,733 in North Carolina.

Railway Surgeons Hold Meeting.—At the annual meeting of the Association of Railway Surgeons of the Norfolk and Western Railway, held in Richmond, Va., the following officers were elected: president, Dr. George Ben Johnston, Richmond; vice-presidents, Drs. Will R. Williams, Richlands, Va., J. Francke Fox, Bluefield, W. Va., Nicholas P. Oglesby, Columbus, O., and John W. Simmons, Martinsville, Va., and secretary-treasurer, John R. Garrett, Roanoke, Va.

Frisco Surgeons Hold Meeting.—At the tenth annual meeting of the Frisco System Medical Association, held in St. Louis, May 31-June 1, the following officers were elected: president, Dr. Millington Smith, Oklahoma City, Okla.; vice-presidents, Drs. Allen C. Brown, Moselle, Mo., and J. Wesley Price, Memphis, Tenn.; secretary, Dr. F. E. Chapman, St. Louis, treasurer, Dr. Walter A. Camp, Springfield, Mo., and executive committee, Drs. Benjamin C. Schwab, Oklahoma City; George W. Cale, Jr., St. Louis; William H. Wilder, Memphis, Tenn.; W. Britt Burns, Memphis, Tenn.; E. J. Neathery, Sherman, Texas, and William N. Yates, Fayetteville, Ark. Springfield, Mo., was selected as the place of meeting for 1912.

Institutional Census.—A preliminary count of the population in institutions comprising prisons, institutions for juvenile delinquents, almshouses and institutions for the insane and feeble-minded from Dr. J. A. Hill, chief statistician for revision and results in the Census Bureau, gives the following figures: The prison population on Jan. 1, 1910, was 109,311; the admissions or commitments to prisons during 1910 were 462,530; and the number of prisoners discharged during that year was 458,996. The number of juvenile delinquents reported at the census of 1910 in institutions for that class was 22,903. The number of paupers in almshouses on Jan. 1, 1910, was 83,944. The number admitted during the year 1910 was 106,457, and the number discharged or dying during that year was 100,858. The enumeration of the insane in asylums indicates a very striking increase in this class of the population. In 1904 the number of insane in institutions was 150,151. In 1910 this number had increased to 184,123, an increase of 22.6 per cent. in six years. The number of commitments to insane asylums during the year 1904 was 49,622, and during the year 1910 was 59,628, an increase of 20.2 per cent. In 1904 the feeble-minded in institutions numbered 15,347; in 1910 the number was 20,199.

LONDON LETTER

(From Our Regular Correspondent)

London, June 17, 1911.

National Insurance Bill

The opposition of the profession to the national insurance bill, described in previous letters to The Journal, is increasing and becoming thoroughly organized. At the meeting of the representatives of the British Medical Association in London the following resolutions were adopted: (1) An income limit of $10 a week for those entitled to medical benefit. (2) Free choice of doctor by patient, subject to consent of doctor to act. (3) Medical and maternity benefits to be administered by local health committees, and not by friendly societies. (4 The method of remuneration of medical practitioners adopted by each local health committee to be according to the preference of the majority of the medical profession of the district of that committee. (5) Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service. (6) Adequate medical representation among the insurance commissioners in the central advisory committee, and in the local health committees, and statutory recognition of a local medical committee representative of the profession in the district of each health committee. Together with these the following general resolution was also adopted: "While approving of the main objects of the bill, and being desirous of cooperating for their attainment, nevertheless, in view of the fact that the present proposals of the government are unsatisfactory, it is the opinion of this meeting that the government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession." Meetings of the divisions of the association have been held all over the country, and these resolutions have been endorsed practically with unanimity; the only difference of opinion is on the wage limit of $10 a week, which many think is too high and should be reduced to $6 or $7. Some physicians bitterly point out that their private patients consist entirely of persons earning these low wages and that as far as males above the age of 16 and unmarried females, their private practice would be entirely wiped out. Moreover, the establishment of school clinics (described in previous letters to The Journal) has largely reduced medical practice among children. It is important to note that this is not a struggle on the part of the profession for high fees, or even for moderate ones, but a struggle of men attending the poor and taking very small fees such as 50 cents for a visit and medicine, or 25 cents, and even as little as 12 cents, for advice and medicine at the office. It is true that they are offered in exchange the capitation fees of those persons who may choose to inscribe themselves under their names. But this alternative is viewed with considerable apprehension, as it is feared it will involve a great reduction of income with increase of work. Even if the profession as a whole did not lose financially by the bill, it is thought that there would be such dislocation of practice that, while some men might be better off, others would be ruined. Mr. Lloyd-George, the chancellor of the exchequer, has made the great mistake of not thoroughly informing himself of the attitude of the profession toward the bill before introducing it. He has spared no pains in studying the problem from other points of view and for two and one-half years has been in communication with representatives of the friendly societies, while he gave only one interview to representatives of the profession (at their request) before introducing the bill. He has made the great error of taking the terms of the friendly societies as a basis and has never realized how objectionable contract practice is to the profession. There is now a strong feeling that the time has arrived to abolish it altogether. On the other hand, the friendly societies are taking up a very hostile attitude to the profession. They resent as a scandalous misrepresentation the chancellor's description of them as in some cases underpaying the doctors and insist on having the appointment and control of their physicians in their own hands and power to lay down rules and regulations for the performance of their duties. One representative of the societies described the spirit in which the physicians approached the chancellor as that of vultures after carrion, and another said they were out to get all the money they could. The quarrel between the societies and the physicians is becoming more acute, and the chancellor is in the unfortunate position of being between two fires. Whatever concession he makes to one party will be resented by the other. The profession is showing a unity and determination never before evinced and always though impossible by its own members. The British Medical Association is naturally taking the lead, and the large part of the profession outside it is falling into line with the action of the association. The latest movement is to establish a "war fund" for the purpose not only of fighting the bill but also for indemnifying those members of the profession who largely depend on contract practice and may resign their appointments as part of the campaign. The British Medical Association has sent post-cards to the 30,000 physicians in the kingdom asking for their support in the struggle, and already (in the course of less than a week) has had 15,000 favorable replies. An investigation into the experience of the Manchester Unity of Oddfellows (the most important of the friendly societies) shows that each member between the ages of 16 and 65 had 16.8 days of sickness per annum on an average, and also attended the doctor's office for consultation 4.3 times. For this work the bill now offers the doctor $1.25, a sum entirely inadequate.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, June 15, 1911.

Personal

The honors to Professor Ehrlich, on which I recently commented, have been increased by the Kaiser, who has bestowed on him the title of Excellency and has appointed him an active privy councilor. This appointment, which among German physicians has been conferred only on Robert Koch, Behring, von Bergmann and Leyden, means much more to Ehrlich because it is the first time within our knowledge that such a title has been given to a scientist of the Jewish faith. This fact may be taken as new evidence that neither the Kaiser nor the Prussian administration is antisemitic. It is not superfluous to remark that the opposite has frequently been claimed.

July 22, Professor Waldeyer will celebrate the fiftieth anniversary of his doctorate. The celebration will be somewhat ceremonious, the more so for the reason that a few years ago Waldeyer declined to permit a formal celebration of his seventieth birthday.

Present Status of the Antituberculosis Campaign in Germany

According to the report of the general secretary of the German Central Committee for the Antituberculosis Campaign, there are at present ninety-nine public and thirty-four private sanatoriums for adult consumptives; in all about 1,400 beds are available for adult tuberculous patients. With an average stay of three months, somewhat more than 56,700 patients can be received for permanent curative treatment each year. Children affected with pronounced tuberculosis are accommodated in twenty-two children's institutions with 1,000 beds. Children with scrofulous affections and those threatened with tuberculosis may be received in eighty-six institutes with 8,122 beds. Ninety-nine forest convalescent stations are open during the summer months, some provided only for day service but others for the night also. Of these a number remain open during the winter months also for the reception of patients. Recently following the experience of America, such mildly affected phthisical patients as can work during the day are received in out-door camps for the night only. In this way the stations are better employed than formerly and those patients who are able to work can pass the night in good open air and receive a nourishing supper and breakfast and thus improve in spite of their employment. This method was first given a trial in the out-door station for women at Pankow-Schönholz. As the results were very good, the arrangements will be increased this year and will be introduced into the convalescent camp for men at Johannisthal near Berlin.

The number of open-air schools in which full instruction is given amounts to fifteen. The farm colonies have not been increased. There is only one such institution for adults at Sannum and one for children at Hohenlychen. At the Hohenlychen institution there is also a housekeeping school for girls and a school in gardening for boys and lately a trade school has been added.

For the selection of patients for the sanatoriums thirty-four observation stations have been established, which is a considerable increase, and the number of homes for patients in the advanced stages of tuberculosis has increased. There are 144 special asylums or special wards in the general hospitals, the majority being in the Rhine province. In most parts of Prussia these special wards are not looked on by the tuberculous with any favor. For this reason the majority of advanced consumptives still are kept at home as previously, and they have to be isolated there as effectively as possible. This task is devolving more and more on the tuberculosis dispensaries, the number of which has increased during the year by more than 200 and is continually growing.

The permanent results of curative treatment are improving from year to year. In Bavaria, Hesse, Hamburg and the imperial provinces, tuberculosis is made a reportable disease under certain circumstances, and the disinfection of dwellings of reportable cases is required on change of residence. A great advance in the efforts to combat tuberculosis is to be expected from the imperial insurance law.

The German Temperance Movement

The war against alcohol by total abstinence is carried on in Germany by organizations of three different kinds, the Good Templars, the religious societies and the professional societies. The most powerful part of the movement is represented by the Good Templars. They are collected into lodges and number in Germany about 50,000 men and women besides a special department of 18,000 children and youths. The religious movement is found chiefly in the evangelical society of the Blue Cross, which, like the Good Templars, forms an international organization with similar societies of other countries. About 40,000 adults and 9,000 children belong to the German general societies. Subordinate divisions of the Blue Cross are the Blue Cross bands and the Free Blue Cross. The latter consists chiefly of Methodist and Baptist societies. In addition there are Catholic cross associations which stand between the Good Templar order and the Blue Cross. To these also belongs a department for the young, the so-called Guardian Angel League. The entire membership of all the religious total abstinence societies in Germany amounts to about 100,000. The professional societies are found in many callings, among ministers, teachers, lawyers, physicians, merchants, etc. Their membership is small and will scarcely exceed 9,000.

Marriages

George Franklin Cottle, M.D., U. S. Navy, to Miss Mercedes Ellis of Los Angeles, at the U. S. Naval Station, Tutuila, Samoa, April 25.

Lawrence J. Simonton, M.D., Cumberland, Md., to Miss Ellen N. Kilgour of Rockville, Md., at Alexandria, Va., June 9.

Albert H. Peters, M.D., to Mrs. Carrie H. Kennedy, both of Colorado Springs, Colo., at Kansas City, Mo., June 15.

George Ralph Christie, M.D., Long Prairie, Minn., to Mrs. Ida Lewis Mason of Norwood Park, Chicago, June 24.

Roy Cleveland Heflebower, M.D., U. S. Army, to Miss Florence Mae Boesch of Washington, D. C., June 6.

Walter C. Chidester, M.D., to Mrs. Dollie Wheaten, both of San Mateo, Cal., at Stockton, Cal., June 15.

Bernard O. Thomas, M.D., Frederick, Md., to Miss Margaret Bartholow, at New Market, Md., June 22.

Charles Harold Gilbert, M.D., Boston, to Mrs. Louise Veazie Hollister of Bloomfield, N. J., June 16.

Edward Lyean Swadener, M.D., Keshena, Wis., to Miss Iva N. Boatman of Clinton, Ind., June 20.

Arthur Leopold Forster, M.D., Chicago, to Miss Helen Shannon of Grand Rapids, Mich., June 12.

Charles Andrew Hargitt, M.D., Syracuse, N. Y., to Miss May Lillian Welch of Brooklyn, June 16.

Joseph Francis Londrigan, M.D., to Miss Mariette McGinty, both of Hazelton, Pa., June 14.

Olaf Martin Steffenson, M.D., Chicago, to Miss Leonelle Pearl Perrin of Waukegan, Ill., June 10.

Deaths

Isaac Wright Blackburn, M.D. University of Pennsylvania, Philadelphia, 1882; of Washington, D. C.; chief pathologist at the Government Hospital for the Insane, and known as one of the foremost pathologists of the day; professor of morbid anatomy and special pathology in the medical department of Georgetown University and of morbid anatomy in the medical department of George Washington University, Washington; died, June 19, of chronic enterocolitis, aged 59.

Walter Stansby King, M.D. Rush Medical College, 1894; of Cedar Rapids, Ia.; a member of the Iowa Union Medical Society and the Iowa State Medical Society; coroner of Linn County for the third term; died at St. Luke's Hospital, Cedar Rapids, June 16, from injuries received in an automobile accident several days previous, aged 40.

Charles Goddard Weld, M.D. Harvard Medical School, 1881; of Brookline, Mass.; for many years connected with the Massachusetts General and the Carney hospitals in Boston; a director of the Massachusetts Institute of Technology; who retired from active practice several years ago; died at his home, June 18, from paralysis, aged 54.

William John Walsh, M.D. University of California, San Francisco, 1902; of San Francisco; a member of the San Francisco County Medical Society; coroner of San Francisco; died at Mt. Zion Hospital, June 20, from traumatic pneumonia induced by injuries received in an automobile accident nine days previous, aged 30.

George Washington Bailey, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1862; University of Pennsylvania, Philadelphia, 1868; for more than forty years a physician of Elizabeth, N. J.; who retired from active practice in 1905; died at his home, June 21, aged 70.

Theodore E. Sands, M.D. Starling Medical College, Columbus, Ohio, 1886; of Battle Creek, Mich; a member of the American Medical Association; surgeon to the Nichols Memorial Hospital, Battle Creek; died at Harper Hospital in Detroit, June 22, after a mastoid operation, aged 48.

Maris Gibson, M.D. University of Pennsylvania, Philadelphia, 1883; of Wilkes-Barre, Pa.; a member of the American Medical Association; for many years a member of the medical staff of the Wilkes-Barre City Hospital; died at his home, June 19, aged 70.

Thomas Hay MacDonald, M.D. University of Michigan, Ann Arbor, 1879; a member of the American Medical Association; for more than thirty years a practitioner in Petersburg, Mich.; died at his home in that place, June 20, from valvular heart trouble, aged 57.

William Pitney Brierley, M.D. Albany (N. Y.) Medical College, 1886; of Albany, N. Y.; a member of the Medical Society of the State of New York; was struck and instantly killed, June 22, by the trolley car which he was about to board, aged 48.

Eugene T. Hall, M.D. Medical College of Ohio, Cincinnati, 1875; a veteran of the Civil War; died at his home in Fort Worth, Texas, June 16, as the indirect result of a collision between his buggy and an automobile more than a month before.

Ray A. Alexander, M.D. John A. Creighton Medical College, Omaha, 1910; of Bristow, Neb.; was found dead, June 12, from the effects of an overdose of strychnin, said to have been self-administered with suicidal intent, aged 34.

Margaret Anderson, M.D. Chaddock School of Medicine, Quincy, Ill., 1888; of Quincy, Ill.; the oldest practicing woman physician in Adams County; died at Blessing Hospital, Quincy, June 16, from cancer of the stomach, aged 60.

John Jeremiah Van Rensselaer, M.D. Albany (N. Y.) Medical College, 1859; a veteran of the Civil War; who had retired from active practice; died at his home, Swartswood, N. J., June 18, from heart disease, aged 75.

Thomas Toney, M.D. University of Nashville (Tenn.), 1875; a veteran of the Civil War; died at his home in Joplin, Mo., June 18, from the effects of injuries received in a fall several months before, aged 68.

William H. Horn, M.D. Gate City Medical College, Texarkana, Texas, 1905; of Taylor, Ark.; was shot and killed in Lewisville, Ark., June 17, while acting as peacemaker in a quarrel, aged 43.

Theron. E. Quinby, M.D. Western Reserve University Medical Department, Cleveland, Ohio, 1868; of Syracuse, N. Y.; died at his home in that city, June 16, after an illness of a week, aged 64.

William C. Webb, M.D. Bellevue Hospital Medical College, New York City, 1877; who resided near Nicholasville, Ky.; died in Lexington, Ky., June 21, from acute stomach trouble, aged 58.

Matthew T. Murdoch, M.D. Memphis (Tenn.) Hospital Medical College, 1911; intern in the Memphis City Hospital; died at the home of his father in Okeene, Okla., June 7, from typhoid fever, aged 27.

George D. Miller, M.D. Missouri Medical College, St. Louis, 1885; of Boydsville, Mo.; died June 3, from the effects of an overdose of morphin, said to have been taken with suicidal intent, aged 73.

Leroy M. Sprowls, M.D. Jefferson Medical College, 1882; of Uledi, Pa.; formerly president of the Fayette County Medical Society; died suddenly at his home, June 17, of heart trouble, aged 53.

Henry E. Latz, M.D. University of Buffalo (N. Y.), 1881; of South Minneapolis, Minn.; died at St. Mary's Hospital, Minneapolis, June 16, after an operation for appendicitis, aged 59.

J. H. Whatley, M.D. Memphis (Tenn.) Hospital Medical College, 1911; of Silver City, Miss.; died in that place, June 12, from appendicitis and abscess of the liver, aged 24.

Morris Christie, M.D. New York University Medical College, New York City, 1859; for many years a practitioner of Antrim, N. H.; died at his home, June 4, aged 79.

John F. Fargo, M.D. Hahnemann Medical College, Chicago, 1882; formerly of Chicago and Minneapolis; died at his home in Hollywood, Cal., June 6, aged 76.

Arthur Elisha Platt, M.D. University of Vermont, Burlington, 1899; died at his home in Riverside, Vt., June 14, from blood poisoning, aged 32.

Jefferson Odenbaugh, M.D. Miami Medical College, Cincinnati, 1880; died at his home in La Grange, Ill., June 9, of paralysis, aged 64.

John E. Smith, M.D. Atlanta (Ga.) Medical College, 1881; died at his home in Atlanta, June 16, from heart disease, aged 50.

Thomas Hunter, M.D. University of Pennsylvania, Philadelphia, 1872; died at his home in Philadelphia, June 19, aged 63.

J. Walden Pratt, M.D. Eclectic Medical Institute, Cincinnati, 1877; died at his home in Marengo, O., June 13, aged 55.

Alfred Z. Caple, M.D. Indiana Medical College, Indianapolis, 1873; died at his home in Argos, Ind., June 5, aged 63.

Correspondence

Unauthorized Use of a Physician's Name

To the Editor:—A book entitled "Large Fees and How to Get Them," has recently appeared, published by one W. J. Jackman, which purports to contain an introductory chapter written by me. The book is being advertised as having been jointly written by one Dr. A. V. Harmon and myself. I desire to state that my name is being fraudulently used. I know neither the publisher nor Dr. Harmon, nor did I ever write a line for the book. The introductory chapter and several later chapters—for which latter, credit is not given—were, without my permission, taken bodily from my "Medicine as a Business Proposition." There is no Dr. A. V. Harmon, in either the Blue Book or American Medical Directory. He is in my opinion a blind, the authorship of the book resting with the publisher. All persons selling or circulating same, or advertising or reviewing the book in connection with my name, do it at the risk of legal complications. I would respectfully ask the medical journals of the country to copy this letter verbatim, thus warning the profession against what, so far as the use of my name is concerned, is a fraud, pure and simple. The title of the book alone should condemn it, while as for much of its contents, the less said the better.

G. FRANK LYDSTON, Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WATER-COOLING SYSTEMS

To the Editor:—In connection with the mention of the special combination drinking-fountain in use in the Association building, described in THE JOURNAL, June 17, p. 1811, I notice that the drinking-water is cooled by the ammonia process. Kindly describe this process. Is it practical for public schools, making water absolutely safe for drinking purposes?

C. W. HALTERMAN, Clarksburg, W. Va.

ANSWER.—In general, refrigeration by the so-called ammonia process is based on the property of a liquid gas absorbing heat on passing from the liquid to the gaseous form and in this way cooling whatever is in the immediate vicinity of the expanding gas.

In practical refrigerating plants, liquid ammonia under pressure is allowed to escape by means of a valve, to the pipes which are to do the cooling. *The release of the liquid gas to* a relatively low pressure causes it to evaporate rapidly and again to become gaseous, at the same time expanding and absorbing heat. If it is desired to cool water, these pipes are situated directly in the tank of water or for more extensive cooling are run through a tank of brine, which is cooled below the freezing point of water and still remains in the liquid condition. This cold brine is then pumped through pipes, which because of their low temperature cause the moisture of the atmosphere to condense on them and for the same reason freeze there in the form of a dense coating of frost. Pipes thus filled with cooled brine are used in keeping low temperatures in cold-storage warehouses.

The ammonia which has cooled the water or brine and which is now in the gaseous state is compressed by means of a special pump and pumped to a series of water-cooled pipes where under the combined influence of pressure and low temperature the gas liquefies and is again ready to be released and again act as a refrigerant.

A large part of the ice used at present is made by the ammonia process and most large cold-storage houses are thus cooled. But this process is not limited to its use on so large a scale, as there are now on the market small ammonia plants made especially for home, office, school or larger use.

More detailed information regarding the various designs of refrigerating machines and plants may be obtained from such books as "The Mechanical Production of Cold," by J. A. Ewing, LL.D., F.R.S. (Cambridge University Press, London, $3.25), and "Refrigeration, Cold Storage and Ice-Making," by A. J. Wallis-Taylor, C.E. (Crosby, Lockwood & Sons, London, $4.50).

FICTION VOICING THE AIMS AND IDEALS OF MODERN PHYSICIANS

A letter was published in this department some time ago, *asking for the names of books* (modern fiction) in which the aims and ideals of *modern physicians are extolled.* We stated at that time that if readers would tell us the *names* of books which they had found of this character we would print the list in THE JOURNAL. We have been informed of the following books:

Allen, James Lane: The Doctor's Christmas Eve.
Balzac, H.: Le médecin de campagne (translated as The Village Doctor, or The Country Doctor).
Eliot, George: Middlemarch.
Gordon, Charles W. (Ralph Connor): The Doctor.
Herrick, Robert: The Master of the Inn.
Hitchins, Robert: Belladonna.
Ibsen: An Enemy of the People.
Jewett, S. O.: A Country Doctor.
Oppenheim, James: Dr. Rast.
Ruffini, J.: Dr. Antonio.
Tompkins, Juliet Wilbor: Dr. Ellen.
Trollope, A.: Dr. Thorne.
Watson, John Maclaren (Ian Maclaren): A Doctor of the Old School; Beside the Bonnie Brier Bush.
Wright, Harold Bell: The Calling of Dan Matthews.

ARTICLES ON HOOKWORM

To the Editor:—Is there a number of THE JOURNAL devoted largely to the hookworm disease? The disease exists among the Mexicans.

A. L. TEMPLE, Mexico City, Mex.

ANSWER.—There is no special number devoted to this subject, but the following original articles dealing with it have been published recently:

Ashford, B. K., and Igaravidez, P. G.: Summary of a Ten Years' Campaign Against Hookworm Disease in Porto Rico, THE JOURNAL, May 28, 1910, p. 1759.
Lindemann, E. E.: Treatment of Hookworm Disease, THE JOURNAL, May 28, 1910, p. 1765.
Litterer, W.: The Non-Oviparous Female Hookworm, THE JOURNAL, Oct. 15, 1910, p. 1378.
Gunn, H.: Hookworm Disease in the Mines of California, THE JOURNAL, Jan. 28, 1911, p. 259.
Strosnider, C. F.: Hookworm Disease, THE JOURNAL, April 8, 1911, p. 1024.

See also Public Health Bulletin 32, U. S. Public Health and Marine-Hospital Service, "Hookworm Disease, Its Nature, Treatment and Prevention." By C. W. Stiles, 1910.

THE ETHER RAUSCH

To the Editor:—The article by Coughlin in THE JOURNAL last week, page 17, may be usefully supplemented by looking up in the files of THE JOURNAL various points in the technic of the ether *Rausch*, the "ether jag," as the term has been freely translated. Sudeck's early communication on the subject was reviewed Dec. 15, 1906, page 2045; Landström's article, Dec. 4, 1909, page 1953, and other points in the technic were brought out in abstracts, page 717, Aug. 22, 1908, and page 1017, March 19, 1910.

C.

The Public Service

Medical Corps, U. S. Navy, Changes

Changes during the week ended July 1, 1911.

Short, W. H., P. A. surgeon, detached from the reserve torpedo division, navy yard, Charleston, S. C., and ordered to the naval station, Key West, Fla.

Winn, C. K., P. A. surgeon, detached from the naval station, Key West, Fla., and ordered to duty at the naval hospital, New York.

Pollard, J. B., asst-surg., detached from the *Prairie* and ordered to the *Virginia.*

Johnson, L. W., asst.-surg., detached from the *Prairie* and ordered to duty with the reserve torpedo division, navy yard, Charleston, S. C.

Halsey, W. H., asst.-surg., detached from the *Virginia* and ordered to the *Solace.*

McCullough, R. E., surgeon, detached from the *Georgia* and ordered to the *Minnesota.*

Alfred, A. R., surgeon, detached from the *Minnesota* and ordered to temporary duty in the bureau of medicine and surgery, Navy department.

Lovering, P. A., medical director, detached from the naval medical supply depot, New York, and ordered to command the naval hospital, navy yard, Mare Island, Cal.

Simons, M. H., medical director, detached from command of the naval hospital, Mare Island, Cal., and ordered home.

Wieber, F. W. F., medical inspector, detached from the navy recruiting station, New York, and ordered to the navy yard, Boston.

Langhorne, C. D., surgeon, detached from the naval hospital, Naval Home, Philadelphia, and ordered to the marine barracks, Washington, D. C.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 28, 1911.

Williams, L. L., surgeon, leave of absence for six days from June 12, 1911, amended to read "five days from June 13, 1911."

Geddings, H. D., surgeon, granted one month's leave of absence from June 23, 1911, on account of sickness.

Foster, M. H., P. A. surgeon, directed to proceed from Seward to Juneau, Alaska, on special temporary duty.

Moore, Dunlop, P. A. surgeon, granted 21 days' leave of absence from June 26, 1911.

Creel, R. H., P. A. surgeon, granted 14 days' leave of absence from July 1, 1911.

Lanza, A. J., asst.-surg., directed to proceed to Fort Stanton, N. Mex., and report to the medical officer in command for duty and assignment to quarters.

Clark, E. S., A. A. surgeon, granted 30 days' leave of absence from July 1, 1911.

Horning, Henry, A. A. surgeon, granted seven days' leave of absence from June 19, 1911, under paragraph 210, Service Regulations.

James, W. F., A. A. surgeon, granted 30 days' leave of absence from July 1, 1911.

Knapp, H. B., A. A. surgeon, granted leave of absence without pay for the period June 14 to Oct. 1, 1911.

Reimer, H. B. C., A. A. surgeon, granted 11 days' leave of absence from July 6, 1911.

Wakefield, H. C., A. A. surgeon, granted 18 days' leave of absence from June 26, 1911.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 11. Chairman, Dr. W. H. Sanders.

CONNECTICUT: Regular, City Hall, New Haven, July 11-12. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, Grace Hospital, New Haven, July 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, July 11, Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

ILLINOIS: Coliseum Annex, Chicago, July 25-27. Sec., Dr. James A. Egan, Springfield.

INDIANA: Room 120 State House, Indianapolis, July 11-13. Sec., Dr. W. T. Gott, Crawfordsville.

MASSACHUSETTS: State House, Boston, July 11-13. Sec., Edwin B. Harvey.

NEW MEXICO: The Capitol, Santa Fe, July 10-11. Sec., Dr. A. Massie.

OKLAHOMA: Ione Hotel, Guthrie, July 11. Sec., Dr. J. Duke.

SOUTH DAKOTA: Mitchell, July 12-13. Sec., Dr. John W Mitchell.

VERMONT: Burlington, July 11-13. Sec., Dr. F. W. Freyberg. Underhill.

WEST VIRGINIA: Capitol Building, Charleston, July 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Madison, July 11-13. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Arkansas May Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, May 9-10, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 88, of whom 72 passed and 16 failed. Ten candidates were licensed through reciprocity. The following colleges were represented.

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1909)	75; (1911) 75.2, 76.9, 78.1, 78.8, 80.6, 81.7, 81.7, 83.2, 83.8, 84.7, 84.8, 85.4, 87.7, 88.1.
University of Arkansas	(1910)	85, 88.2; (1911) 75.9, 75.9, 77.7, 78.1, 78.9, 80, 80.8, 82.2, 82.6, 82.6, 82.9, 83.2, 83.2, 85.4, 85.6, 85.8, 85.9, 86.1, 86.9, 87.7, 89.6.
Atlanta College of Physicians and Surgeons	(1909)	79.3
Illinois Medical College	(1905)	76.2
College of Physicians and Surgeons, Chicago	(1904)	86.3
Bennett Medical College	(1911)	83.9
University of Louisville	(1910)	76.7
Tulane University of Louisiana	(1904)	84.7; (1911) 77.2, 81.9, 82.9, 88.6, 87.6, 88.9.
Baltimore Medical College	(1909)	77.6
Barnes Medical College	(1906)	83.2
Beaumont Hospital Medical College	(1893)	79.3
Kansas City Medical College	(1900)	80.5
Vanderbilt University	(1903)	87; (1910) 92.3; (1911) 88.4, 89.4
Meharry Medical College	(1911)	76.9, 80.7, 83.3, 85.6
Memphis Hospital Medical College	(1904)	87.9, (1910) 81.2; (1911) 76.4, 77, 77.3, 88, 90.7.
University of Tennessee	(1911)	78.2, 83.3
University of Virginia	(1909)	90.4

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1910)	62.6, 66.2; (1911) 56.7, 66.3, 72.6.
University of Louisville	(1910)	61.8
Barnes Medical College	(1910)	58.4
St. Louis Coll. of Phys. and Surgs.	(1908)	71.8; (1910) 72.8
Memphis Hospital Medical College	(1910)	66.8; (1911) 67.6, 72.7
University of Tennessee	(1911)	74.6
Meharry Medical College	(1910)	69; (1911) 69.4, 72.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Louisville	(1892)	Indiana
Tulane University of Louisiana	(1910)	Louisiana
St. Louis University.....(1905) Louisiana;	(1909)	Illinois
Barnes Medical College.....(1905)	(1906)	Illinois
University Medical College, Kansas City	(1899)	Texas
Columbus Medical College	(1888)	Ohio
Meharry Medical College	(1907)	Louisiana
Milwaukee Medical College	(1897)	Wisconsin

California April Report

Dr. Charles L. Tisdale, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, April 4-7, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 72, of whom 48 passed, including 8 osteopaths, and 24 failed, including 4 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cooper Medical College	(1910)	83.9
Hahnemann Med. College of the Pacific	(1909)	75
College of Physicians and Surgeons, San Francisco	(1907)	80.6; (1909) 75, 77.7, 82.5.
Atlanta College of Physicians and Surgeons	(1903)	75
Northwestern University Med. School (1883) 89.1;	(1899)	89.1
Hahnemann Medical College and Hosp., Chicago	(1894)	85.8
Rush Medical College (1887) 87.6; (1893) 75.2;	(1899)	77.3; (1902) 80.6; (1903) 83.4; (1909) 90.2.
College of Phys. and Surgs., Chicago (1886) 87.7;	(1906)	81.9
Indiana University	(1910)	78.4
Medical School of Maine	(1908)	81.7
Johns Hopkins University	(1906)	89.3
Harvard University Medical School	(1894)	90.7
University of Michigan, Homeopathic College	(1901)	96
University of Minnesota, College of Med. and Surg.	(1904)	81.3
Missouri Medical College	(1889)	92
St. Louis University	(1904)	88
Columbia University, Colleg of Phys. and Surgs.	(1909)	87.6
Bellevue Hospital Medical College	(1892)	82
Long Island College Hospital	(1910)	84.4
Medical College of Ohio	(1896)	86
Western Reserve University (1883) 87.3;	(1879)	90
Eclectic Medical College, Cincinnati	(1885)	77
University of Pennsylvania	(1908)	93
Jefferson Medical College (1899) 78.2;	(1909)	81.6
Medico-Chirurgical College, Philadelphia	(1906)	88.9
Manitoba Medical College	(1894)	86.6
McGill University, Montreal, Quebec	(1903)	89
University of Palermo, Italy	(1900)	75

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Los Angeles	(1908)	71.4
Cooper Medical College	(1910)	70.5
California Eclectic Medical College (1910) 65.4;	(1906)	67.8
College of Physicians and Surgeons, San Francisco	(1907)	55.1; (1910) 71.5.
Medical College of Indiana	(1902)	71.3
University of Iowa, College of Medicine	(1901)	66.8
College of Phys. and Surg., Keokuk (1881) 62.8;	(1887)	71.4
Louisville National Medical College	(1889)	43.2
University of Michigan, Homeopathic College	(1892)	67.7
American Medical College, St. Louis	(1898)	56.8
St. Louis University	(1906)	72.3
Ensworth Medical College	(1908)	64.3
Cleveland College of Physicians and Surgeons	(1884)	74.5
Starling Medical College	(1882)	*81.0
Medical College of Ohio	(1895)	29.8
Pulte Medical College	(1894)	70.8
Tokio Medical College, Japan	(1907)	64

* Passed on account of years of practice.

Wisconsin May Reciprocity Report

Dr. John M. Beffel, secretary of the Wisconsin State Board of Medical Examiners, reports that at the meeting held at Milwaukee, May 24-26, 1911, twenty-one candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1893)	Minnesota; (2, 1909) (1910) Illinois.
American Medical Missionary College	(1906)	Michigan
Northwestern University Medical School	(1907) (1908)	(2, 1909) Illinois.
Chicago Homeopathic Medical College	(1885)	Washington
College of Physicians and Surgeons, Baltimore	(1882)	Washington
Harvard University Medical School	(1909)	Maryland
University of Michigan, College of Medicine	(1880)	Michigan; (1887) (1904) Washington.
University of Minnesota, Homeopathic College	(1889)	Washington
Barnes Medical College	(1908)	Tennessee
Omaha Medical College	(1888)	Washington
University and Bellevue Hosp. Medical College	(1903)	New York
McGill University, Montreal, Quebec	(1898)	Washington
Royal University of Naples, Italy	(1882)	Illinois

PROCEEDINGS OF THE LOS ANGELES SESSION

MINUTES OF THE SIXTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT LOS ANGELES, CAL., JUNE 26-30, 1911

HOUSE OF DELEGATES

(*Continued from July 1, page 88*)

Third Meeting—Tuesday Morning, June 27

The House of Delegates met at 2 p. m. and was called to order by the President, Dr. John B. Murphy, Chicago.

The secretary called the roll, and there was a quorum present.

The minutes of the previous session were read and approved.

The President appointed Dr. J. E. Tuckerman, Ohio, as a member of the Committee on Credentials, and Dr. D. Chester Brown, Connecticut, Chairman.

Report of the Reference Committee on Medical Education

Dr. H. D. Arnold, Massachusetts, Chairman, presented the report of the Reference Committee on Medical Education, as follows:

The Reference Committee on Medical Education begs leave to submit the following report:

On behalf of the House of Delegates, the committee extends congratulations to the Council on Medical Education on the continuance of the excellent work of previous years. We believe that this work constitutes one of the most important and successful forms of activity that the Association has undertaken, and that the good results in improvements in medical education, which are becoming more and more evident, are permanent in character. We shall never go back to the lower standards that were prevalent a few years ago.

The recognition of the excellence of the work of our Council on Medical Education by Dr. Eijkmann of the Hague, as a powerful international influence in raising standards of education, is not only gratifying to the Council but should be a matter in which every member of the American Medical Association takes pride.

The charts included in the report of the Council show in a graphic and convincing way the really remarkable progress that has been made during the past seven years in raising the standards of medical education in this country. While the Council modestly disclaims any credit beyond the obvious fact that it had "an extensive influence" in this upward movement, your committee cannot regard as a mere coincidence the fact that practically all of this improvement has come since the Council began work seven years ago.

We believe that the work of the Council has been the most important single factor in accomplishing these results. We are confident that still further improvement will result from a continuance of this work, and that in the near future we shall have still fewer medical schools in the United States, but that these schools will be stronger and better and that their standards will be higher.

The most reassuring feature of these statistics is shown in Chart 5 of the Council's report, which indicates that, whereas seven years ago less than 5 per cent. of all medical students were enrolled in the schools which required one or more years of college preparatory work, in the year just closed fully one-third of all medical students were enrolled in schools of this type. A further study of the charts shows that the increase in the number of students enrolled in these high grade schools has practically kept pace with the increase in number of such schools. In other words, the intelligent medical student has been quick to take advantage of opportunities offered for a better preparation for his life work. We believe that this will be true of a larger and larger proportion of medical students, and that schools which maintain low standards must be content to cater only for the poorly prepared or the less intelligent students.

We therefore recommend that the House of Delegates approve of the continuance of the work of the Council on Medical Education along all the lines of activity that it has undertaken.

We recommend that the Council be authorized to conduct a third thorough inspection of the medical schools of this country as soon as the Council deems such an inspection wise, and that it be requested to report the results to the House of Delegates as soon as the inspection can be satisfactorily completed. We believe that this is a matter of justice to the medical schools—especially to those which are using their best endeavors to improve their methods of teaching.

We most heartily endorse the suggestions of the Council that it is desirable to invite Mr. Frederick G. Hállet, the secretary of the Conjoint Board of London, to attend the next conference held under the auspices of the Council on Medical Education, in order that he may enlighten us and the medical examining boards in regard to the way in which a practical examination of candidates for licensure is so satisfactorily conducted in Great Britain.

We therefore recommend to the House of Delegates that they request the Board of Trustees to authorize such expense as may be necessary to accomplish this object.

Since it is clear that publicity is the most powerful agent that the Council has at its disposal, and since it is so clear that many desirable improvements in legislation governing medical education and licensure will depend on a strong public sentiment in their favor, it is important that the American Medical Association should use all proper means to lay before the public such information as will enable it to understand the need of such reforms.

We have in the methods of the Council on Health and Public Instruction a proper and effective way of reaching the general public. The Council on Medical Education has already cooperated with the other Council to some extent by furnishing it with information in this line, which it can send out to the general public.

Your committee believes that this cooperative work by these two councils should be systematically developed and that by this means the Association can accomplish much for the public welfare. It should be our aim to make the public understand that this work is really undertaken for their welfare, and the committee is also of the opinion that it is important to emphasize the good work that has already been done, and the improvements that are constantly being made, as well as noting the shortcomings of medical schools, the registration boards, and medical legislation.

The chief new feature advocated by the Council on Medical Education in its report this year is the desirability of a fifth year of instruction in the medical school, to be spent as an intern at a suitable hospital or in approved laboratory work. Your committee is heartily in sympathy with the idea that such extra experience is really essential to a satisfactory preparation of the student for his independent professional work, whatever that line of work may be. We believe that this idea should be held out to the medical schools as an aim toward which they should work as fast as circumstances permit, but we also agree with the words of the Chairman of the Council that "this requirement cannot immediately be put into effect throughout the whole country." Inasmuch, however, as a large proportion of medical students are already taking this extra year of practical work on their own initiative, the time cannot be far distant when the medical schools must officially recognize the desirability of this step by incorporating it as a part of the course. In the meantime the schools should urge all students to secure this extra experience, and this will pave the way for the adoption of this measure as a requirement. We believe that this matter may well be the subject of further study and report on the part of the Council on Medical Education.

In closing, the committee would bring to the attention of the House of Delegates still one more matter in which cooperation of two of the councils of the Association has been going on and has promise of valuable results. We refer to the work done by the Council on Pharmacy and Chemistry in reference to simplifying the requirements of instruction about drugs in the Pharmacopeia and a corresponding change in the state board examinations. Everybody admits that valuable time is wasted in giving instruction about useless drugs, because they appear in the Pharmacopeia and because the state licensing boards are liable to ask about them. We believe that our two councils working in cooperation can best devise a wise solution of this problem, and that the House of Delegates should express its approval of what is being done.

H. D. Arnold, Chairman.

On motion, the report was adopted.

Report of Reference Committee on Legislation and Political Action

Dr. G. B. Young, U. S. P. H. and M.-H. S., read the report of the Reference Committee on Legislation and Political Action, as follows:

ACTION ON REPORT OF COMMITTEE ON NATIONAL DEPARTMENT OF HEALTH

Your committee recommends that the report of the Committee on National Department of Health be accepted and the committee be discharged, and that further action in the matter be referred to the Council on Health and Public Instruction.

RESOLUTION ON AMENDING FOOD AND DRUGS ACT

Your committee, having considered the resolutions relating to the amendment of the national Food and Drugs Act at the present session of Congress, respectfully recommends that the Secretary be instructed to telegraph a copy of the following resolutions to the President of the United States, the vice-president of the United States, and the speaker of the House of Representatives and to send a printed copy of the same to each member of the United States Senate and House of Representatives.

WHEREAS, By a recent decision of the Supreme Court of the United States it has been decided that the national Food and Drugs Act enacted by Congress in June, 1906, contains in its present form nothing to prevent the printing on the labels of packages false and misleading statements in regard to the value and therapeutic action of their contents; and

WHEREAS, We believe that this decision is opposed to the intent of Congress enacting the said measure; and

WHEREAS, We are persuaded that this feature of the law is of equal importance with its other provisions.

Resolved, (1) That the House of Delegates of the American Medical Association in the annual convention assembled at Los Angeles, California, June 26, 1911, respectfully petitions Congress to amend the national Food and Drugs Act at the present session so that false statements of any kind appearing on the labels, circulars, etc., of foods and drugs be made unlawful.

Resolved, (2) That we heartily commend the act of the President in sending a special message to Congress urging on it immediate action in this matter.

REPORT OF COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

Your committee has considered the report of the Council on Health and Public Instruction together with the reports of its subcommittees as printed in the Handbook and the supplemental report submitted by the Chairman of the Council, and reports as follows: We respectfully recommend the approval by the House of Delegates of the plans for the conduct of the work of the Council and for the extension of its activities as outlined in said reports. We earnestly recommend to the members of the House of Delegates and of the Association at large a careful perusal of the above mentioned reports as printed in the Handbook,* in order that each one may be in a position to cooperate intelligently in the furtherance of the great work undertaken.

Respectfully submitted,
J. N. HURTY, Chairman,
W. C. GORGAS,
B. M. CAPLES,
G. B. YOUNG.

At the conclusion of the reading of the report, Dr. W. C. Woodward, District of Columbia, said: In so far as relates to that portion of the report which pertains to a special committee appointed to consider the establishment of a national department of health, I move that consideration of the same be postponed until the next meeting of the House of Delegates, so that the matter can be considered by the Council. Seconded.

The motion was discussed by Drs. Young, Cantrell and Woodward, after which the motion was put and carried.

The other sections of the report were then read by the Secretary, and adopted section by section.

Report of Reference Committee on Hygiene and Public Health

Dr. Alexander Marcy, New Jersey, Chairman, presented the report of the Reference Committee on Hygiene and Public Health, as follows:

Your Reference Committee on Hygiene and Public Health begs leave to report having had under consideration the report of the Committee on Nomenclature and Classification of Diseases and recommends the adoption of the report and the continuance of the committee with such additions as may be necessary to complete its full membership, and that said committee be instructed to continue its work in cooperation with other organizations working along the same lines, and that such classification as they may adopt, together with the international classification and causes of death, be published and supplied to the members of the American Medical Association.

We further recommend that in case of a vacancy on this committee such vacancy be filled by a member especially interested in tropical diseases.

ALEXANDER MARCY, JR., Chairman.

On motion, the report was adopted. The nomenclature report referred to was as follows:

Report of the Committee on Nomenclature and Classification of Diseases

To the Members of the House of Delegates of the American Medical Association:

Your Committee on the Nomenclature and Classification of Diseases begs leave to submit the following report:

Up to a time shortly preceding the rendering of our last report, at the meeting of 1910, our work was hampered by the necessity of waiting for the appearance of the revised version of the International Classification of Causes of Death, for we had been instructed to have due regard for that classification; indeed, early in our labors we were again admonished to follow it closely. This resolution, however, was overlooked by us, and time soon made it clear, for reasons which need not now be set forth, that the resolution could not be followed literally.

We had been very favorably impressed with the Bellevue Hospital Nomenclature of Diseases and Conditions, prepared by a committee consisting of Dr. Robert J. Carlisle, Dr. Warren Coleman, Dr. Thomas A. Smith and Dr. Edmund L. Dow, which first appeared in 1903, and the appearance of a revision of that work, early in 1909, led us to examine it still more closely. It was not long before a second revision was begun, and our chairman was very courteously invited to observe the progress of the work. This second revision is not yet published, but is in press and will probably be out some weeks before the Los Angeles meeting. The close examination that we have been able to give it leads us to the opinion that, from the clinical point of view, it is superior to any other nomenclature with which we are acquainted and to any which we ourselves could prepare within a reasonable length of time. Moreover, it is very well known and many hospitals have either adopted it or indicated a readiness to study it further, with a view to its probable adoption. These hospitals include three in California, one in Colorado, two in Connecticut, seven in Illinois, two in Louisiana, one in Maryland, two in Massachusetts, four in Michigan, two in Missouri, three in New Jersey, thirty-four in New York, thirteen in Pennsylvania, one in Tennessee, one in Texas, three in Utah, one in Australia, one in Canada, one in Denmark, one in England, one in Italy, and one in Switzerland. Men do not take up with systems of nomenclature for light reading; we must therefore conclude that the Bellevue nomenclature has very favorably impressed our confrères in various localities. We recommend that it be made a part of whatever publication on the subject of the nomenclature and classification of diseases the American Medical Association may decide to issue—and the prominent part, by reason of its clinical character.

It will be well, we think, to publish also a Latin list, if only for purposes of international correspondence. Such a list as has lately been prepared by Surgeon Charles N. Fiske, of the navy, and is published in the *United States Naval Medical Bulletin*, April, 1911, would be excellent for the purpose, though a little editorial work would be required to make it conform in minor details to the Bellevue nomenclature.

As a matter of course, we recommend the adoption of the International Classification of Causes of Death. It seems to us in need of further revision, but for that we must wait until 1919. Meantime, the excellent manual made of its expanded list by Dr. Cressy L. Wilbur, chief statistician of the Division of Vital Statistics of the Bureau of the Census, makes a list which should figure prominently in our publication if we issue one. This, too, is not yet off the press. It is of value from many points of view, but will be particularly of service to health officials who have to determine what is meant by certain blind returns.

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* EDITOR'S NOTE: To avoid any misunderstanding, it is here stated that there are no copies of this "Handbook for the House of Delegates" for general distribution. The full text of the report here referred to, of the Council on Health and Public Instruction, has already been published in THE JOURNAL, July 1, in the official minutes of the proceedings of the first day's meetings of the House of Delegates.—ED.

of Trustees finds that its institution is classified third, and that there is another institution in the same community classified second or first, a spirit of competition will be aroused, to the end that all of the hospitals in the community must be improved. But if this Association would take the initiative so that proper courses of study could be laid out for nurses who are so anxious to learn the things that they ought to know, then the training schools of the country would have something on which to base a correct classification of their courses of study and the dictum of this Association would be followed almost unanimously, to the end of better conditions in the nursing profession.

Medical men throughout the country are at the mercy of conditions which we might call individualism in the treatment of their patients. No physician can hope to have adequate facilities to care for his obscure patients in the home of the patient. These facilities are expensive, not always quickly obtainable, so that in obscure diseases where their diagnosis or the treatment requires something more than bedside observation and internal medication, patients must of necessity be sent to the hospitals where there are facilities for taking care of them. Therefore, it is one of the most vital interests of the medical profession to foster and guide the efficiency of hospitals.

These hospital facilities are highly technical in character, and require special training and skill of a very special order, for their proper employment and trained assistants cost money and hospitals are too often impoverished and parsimonious, and there must be some force behind them that will set standards by which they can be made to see their deficiencies, and that will inculcate a spirit of competition—therefore standards for hospital efficiency and training.

I move that a Section on Hospitals be established, and that this matter be referred to the Reference Committee on Sections and Section Work.

The report was so referred.

Associate Members Elected

Dr. Walter L. Bierring, Iowa, presented the following from the Section on Pathology and Physiology:

The following representative teachers, students of sciences allied to medicine resident in the United States and not eligible to regular membership, are recommended by the officers of the Section on Pathology and Physiology for election to associate membership in the American Medical Association by the House of Delegates:

Alsberg, Carl L., Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.
Beebe, S. P., Cornell University Medical College, Loomis Laboratory, 414 East 26th Street, New York.
Carrel, Alexis, Rockefeller Institute, 66th Street and Avenue A, New York.
Gies, William J., Department of Biologic Chemistry, Columbia University, New York.
Jackson, Dennis E., Washington University Medical School, 1906 Locust Street, St. Louis.
Maxwell, S. S., Department of Physiology, University of California, Berkeley, Cal.
Meigs, Edward B., Wistar Institute, Philadelphia.
Mendel, Lafayette B., Professor of Physiologic Chemistry, Yale University, New Haven, Conn.
Murlin, J. R., First Avenue and 26th Street, Cornell University Medical School, New York.
Rockwood, E. W., Department of Chemistry, State University of Iowa, Iowa City.
Salant, William, Bureau of Chemistry, Washington, D. C.
Shaffer, Philip A., Washington University Medical School, 1806 Locust Street, St. Louis.
Sheldon, R. E., Anatomic Laboratory, University of Pittsburgh, Pittsburgh.
Simpson, Sutherland, Department of Physiology and Biochemistry, Cornell University Medical College, Ithaca, N. Y.
Snyder, Charles D., 1412 Bolton Street, Baltimore.
Stookey, L. B., Physiologic Laboratory, University of Southern California, Los Angeles.
Underhill, Frank Pell, Assistant Professor Physiologic Chemistry, Yale University, New Haven, Conn.
Voegtlin, C., Department of Pharmacology, Johns Hopkins University, Washington and Monument Streets, Baltimore.
Pearce, Richard M., Department of Pathology, University of Pennsylvania, Philadelphia.

YANDELL HENDERSON, Chairman.

LEO LOEB, Secretary.

On motion the Secretary was directed to cast a ballot for the House, which he did and the above-named candidates were elected to associate membership.

Application from Porto Rico Association

The following communication was presented by the Secretary:

The Secretary has received an application from the Medical Association of Porto Rico praying that it may be received as a constituent association of this organization, which is presented to this House for its approval.

It was moved and seconded that this application be received and referred to the Judicial Council.

Judicial Council Appointed

The President then appointed the following as the Judicial Council: Drs. Frank Billings, Illinois; James E. Moore, Minnesota; A. B. Cooke, Tennessee; Alexander Lambert, New York; and Hubert Work, Colorado.

Proposed Authorized Text-Books

Dr. Arthur T. McCormack, Kentucky, offered the following preamble and resolution:

WHEREAS, An unendurable tax is being levied on the profession by some of the great publishing houses by means of the many volumed systems of text-books in the various departments of medicine, the first volumes of which are often out of date before the last ones are received, and many of them so padded as to require time to search out the grain from the chaff of more value than the cost of the books;

Resolved, That the Board of Trustees be hereby requested during the coming year to consider the practicability of asking any or all of the sections to select a competent author to prepare a one-volume text-book on the branch to which such section relates, to be published by the Association and sold to the profession at cost direct or through the county societies.

This preamble and resolution were referred to the Board of Trustees.

Another Proposal for Section on Physicotherapy

Dr. P. S. Mitchell, Kansas, stated that in view of the fact that there is a great deal of work being done in drugless therapy, and that this is being done at random by electricity and various things of that sort, he would move that a section on this subject be established.

The resolution was referred to the Reference Committee on Sections and Section Work.

Dr. A. T. McCormack, Kentucky, asked the privilege of referring to the Reference Committee on Legislation and Political Action a motion to be drawn in conformity with a resolution passed in the general session this morning endorsing the Owen bill, which request was granted by the House.

On motion, the House of Delegates then adjourned until 2 p. m. Thursday.

Fourth Meeting—Wednesday Afternoon, June 28

The House of Delegates met at 2 p. m., pursuant to a call issued by the President, which call had been published in bold type on every page of the *American Medical Association Bulletin* issued early in the morning of June 28.

In the absence of the President, the First Vice-President, Dr. E. E. Montgomery, occupied the chair.

Dr. D. Chester Brown, Connecticut, Chairman, presented a supplementary report of the Committee on Credentials, and announced that 130 delegates had registered.

The Secretary called the roll, and seventy-five members responded.

The minutes of the previous session were read and approved.

Report of Reference Committee on Sections

Dr. Walter L. Bierring, Iowa, Chairman, read the report of the Reference Committee on Sections and Section Work, as follows:

ASSOCIATE MEMBER ELECTED

The officers of the Section on Pharmacology and Therapeutics recommend for election by the House of Delegates to associate membership, Julius A. Koch, Pittsburg College of Pharmacy, Pittsburg, Pa. The Committee also approves the following recommendations, which are transmitted from that Section:

PROPOSAL TO EXAMINE RADIO-ACTIVE WATERS

Owing to the importance attributed to radio-active mineral waters in the treatment of gouty and other affections by competent European observers, and the special interest excited by the symposium on the subject at the thirty-second Balneologic Congress recently held in Berlin. the Section on

Pharmacology and Therapeutics of the American Medical Association requests the House of Delegates to suggest to the United States Government the advisability of investigating the radio-activity of the various mineral waters of the United States and publishing the results for the benefit of the medical profession.

TRADEMARKS AND PATENTS

2. WHEREAS, Cooperation between the medical and pharmaceutical professions is essential for the development of materia medica science and the advancement of the art of preparing medicines and applying the same to the treatment of the sick, and,

WHEREAS, Progress in materia medica science and in the pharmacologic and therapeutic arts is being hindered and cooperation between physicians, pharmacists and manufacturers engaged in the chemical and pharmacal industries prevented by product patents and the registration of names as trade-marks, which are afterward employed as generic or descriptive names of materia medica products; therefore, be it

Resolved, That we, the Section on Pharmacology and Therapeutics of the American Medical Association, representing the medical and pharmaceutical professions, do hereby request the House of Delegates to instruct the Council on Health and Public Instruction to draft amendments to the patent and trade-mark laws whereby no patents shall be granted on materia medica products, and the patents shall be limited to process and apparatus for manufacture, leaving the products themselves and the currently used names of the same free to science and commerce.

REPORT ON ADDRESS OF DELEGATION FROM AMERICAN PHARMACEUTICAL ASSOCIATION, DELIVERED BEFORE THE SECTION ON PHARMACOLOGY AND THERAPEUTICS

SECTION 1. RECOMMENDATION 1. Approved. The recommendation that the American Medical Association should undertake an educational propaganda in behalf of the United States Pharmacopeia and National Formulary is in harmony with the educational work of the American Medical Association.

RECOMMENDATION 2. The testing of the therapeutic claims made by manufacturers of alleged new remedies is in harmony with the work of the American Medical Association. Standing in the way of this work are the proprietary claims of the manufacturers. An educational campaign having as its object the teaching of the profession to use monopolized materia medica products is contrary to the altruistic principle on which ethical medical and pharmacal practice is founded. This cannot be accomplished without converting the educational machinery of the profession into a great advertising bureau for the exploitation of commercially controlled products. Therefore, the suggestion of the delegation, in so far as it relates to so-called proprietary products, is not approved. But the Section does approve the testing of new materia medica products which are free to science and commerce. Such test should include the work of experts in pharmacognosy, pharmacy, pharmaco-dynamics and therapy dynamics as well as the work of clinicians. Only by cooperation between experts in these various branches of pharmacologic practice can the science of the materia medica and the arts on which this science is dependent be properly developed. Furthermore, as therapeutic verdicts are dependent on the cooperative investigations of many competent observers extended over long periods of time and conducted under such varying conditions of environment as to eliminate errors due to differences in climate, race and social conditions, the work of a Council of the kind proposed would have to be conducted in cooperation with the educational institutions of medicine and pharmacy throughout the world to be of much value to the practitioners of the pharmacologic and therapeutic arts. The Section approves the suggestion of the American Pharmaceutical Association delegation within these limitations.

RECOMMENDATION 3. Approved. The suggestions are in harmony with the work of the American Medical Association and in line with plans now in process of development.

RECOMMENDATION 4. Approved. The proper selection, preservation, preparation, compounding and dispensing of medicine equires proper education and training not included in the courses of instruction given in medical schools, but comprised in the courses furnished by schools of pharmacy. Physicians who have not duly qualified as pharmacists are not trained to undertake the work of the pharmacist. However, as stated in the recommendation of the delegation, there are conditions existing which require physicians to dispense their own medicines. The Section, therefore, recommends that physicians shall, as far as possible, relegate to pharmacists the dispensing and limit themselves to the prescribing of medicines; also that pharmacists place themselves in position to act in cooperation with the medical profession by refraining from counterprescribing, and recommending medicines for self-medication whether prepared by themselves or others.

SECTION 2.—RECOMMENDATION 1. The Section approves igher education on the part of pharmacists. Such education should include ethical instruction as well as instruction in the branches usually included in the courses given by colleges of pharmacy. The suggestion that a committee be appointed to draw up resolutions on this subject is approved.

RECOMMENDATION 2. The Section approves of the efforts to eliminate the sale of nostrums by pharmacists and others. The amendment suggested in relation to the Food and Drugs Act, making it a punishable crime to lie in advertising, would, if adopted, and put into operation, do much to control and limit the sale of this class of products.

RECOMMENDATION 3. The Section does not approve of substitution of one product for another, or one brand for another, without the knowledge and consent of the prescriber. Circumstances may sometimes arise when it is impossible to obtain consent beforehand. Under such circumstances the substitution of brands may be permissible but not the substitution of products. In such cases the prescriber should always be notified afterward and subsequent renewal of prescription be guided by the wishes of the prescriber.

SECTION 3.—The recommendation under this Section in regard to the revision of the U. S. Pharmacopeia, preventive medicine, and safeguarding the public health, the amplification of the materia medica, the fighting of fakes and fakers, drug adulteration, and the prescription commission evil, are in harmony with the work of the American Medical Association, and are therefore approved.

PROPOSED SECTION ON HOSPITALS

The Committee on Sections and Section Work, begs to report further on the following matters referred to it for consideration:

In regard to the request for the establishment of a Section on Hospitals, we submit that, at the St. Louis session of the Association a well signed petition was presented to the House of Delegates, asking for the creation of a Section on Hospitals. This petition was referred to the Committee on Sections and Section Work, and after brief consideration, was reported back with the recommendation that it lie over to give the proposers more time to demonstrate the need of such a section.

At this meeting of the Association, considerable additional information has been obtained by the Committee to indicate that there is a desire, expressed by letter and personal communications from many prominent members of the Association, to have a section that will constitute an avenue for the presentation of subjects pertaining to hospital work.

The Committee recognizes the particular function of the hospital as an educational influence, and the rôle it exerts as an instrument to promote the work of the physician and surgeon.

Furthermore, the hospital is an index of the standing and medical attainments of the men constituting its visiting and attending staffs.

The Committee recognizes further the great need for the standardizing of hospitals on a higher plane, consistent with the progress being made in all other lines of medical work, and is of the opinion that a betterment in hospital conditions can best be brought about through the influence of this Association; and,

THEREFORE, It recommends that a Section on Hospitals be established, and that the officers of this Section be appointed at this meeting to arrange a program for the session of 1912.

The Committee has also considered the request made at this meeting to establish a section on drugless therapeutics, but in view of the fact that a Section on Pharmacology and Therapeutics already exists, which is very comprehensive in its scope, covering the different therapeutic measures usually included under drugless therapy, the Committee reports adversely on the creation of a section on drugless therapeutics.

In this connection, the Committee begs to call to your attention that a Section on Genito-Urinary Diseases was created at the last meeting of the Association, and the officers have failed to provide a program for this meeting, so that the Committee feels it is in order to suggest an amendment to the By-Laws, that, whenever the officers of a Section fail to provide a program for the annual meeting, the Section should be discontinued.

It is further suggested that the Section on Dermatology, which also failed to have a program this year, could properly be combined with the Section on Genito-Urinary Diseases.

W. L. BIERRING,
SEALE HARRIS,
EDWARD JACKSON,
A. F. JONAS,
R. R. SMITH.

On motion, the report was accepted and the recommendations concurred in.

Report of Reference Committee on Constitution and By-Laws

Dr. Arthur T. McCormack, Kentucky, Chairman, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

1. Your Committee, to whom the motion of Dr. Fairchild was referred, recommends that Chapter 7, Section 3, of the By-Laws relating to the duties of Secretary be amended by striking out the word "or" in the last clause and by adding after the words "Board of Trustees" the words "or the General Manager."

On motion, this section of the report was adopted.

2. Your Committee recommends that the amendments to the constitution, Articles 5, 8 and 12, printed on page 22 of the Handbook, be adopted; and that the proposed amendment to Article 9 be rejected.

On motion, this section of the report was adopted.

3. Dr. John B. Roberts, Pennsylvania, proposed the following amendments which the Committee approves:

Amend Article 11 of the Constitution by striking out in the first, second and third lines the words "by an equal assessment of not more than ten dollars annually on each of the members." (To lie over until next year.)

Amend Article 3 of the Constitution by striking out the entire paragraph and inserting after the title of the article the following:

> All members in good standing of the component societies or their constituent branches shall be members of the American Medical Association.
>
> Any member may become a fellow of the American Medical Association by making application on a prescribed form and fulfilling such conditions as may be required by the provisions of the By-Laws. (To lie over until next year.)

4. Referring to the proposed uniform regulation of membership, your Committee suggests the advisability of a full discussion of this important question in a Committee of the Whole of this body, that the Committee having the matter in charge be continued and that their reports be sent to the secretaries of the constituent associations for presentation to their respective houses of delegates.

A. T. MCCORMACK, Chairman.
CHARLES S. SHELDON,
J. W. YOUNG,
JOHN B. ROBERTS,
W. B. RUSS.

On motion, the report of the Committee was adopted as a whole.

Report of Reference Committee on Miscellaneous Business

Dr. Hubert Work, Colorado, Chairman, presented the report of the Reference Committee on Miscellaneous Business, as follows:

Your Reference Committee on Miscellaneous Business reporting on the report of the Committee on Relief Fund and Physicians' Sanatorium begs to recommend:

1. That the House of Delegates endorses the proposition to organize a corporation for the collection, care and administration of a relief fund and the supporting of a tuberculosis sanatorium; the relief fund to be expended, so far as possible, with the cooperation of local medical organizations.

2. That a committee of five be appointed, with authority to add to their number one member from each state medical society, one from the society of the District of Columbia, and one from each of the government medical services, to bring the subject of the Relief Fund and Physicians' Sanatorium to the membership of state and local medical societies.

It will be observed that the adoption of this report in no way obligates the American Medical Association financially or commits it to the support of such a project further than to lend its moral support to a philanthropic movement in the interests of physicians incapacitated by tuberculosis.

On motion, the report was adopted. The sanatorium report was as follows:

Report of the Committee on Relief Fund and Physicians' Sanatorium

To the Members of the House of Delegates of the American Medical Association:

The failure of the House of Delegates to take definite action on the general plan presented by the committee last year, or to make suggestions for the continuance of the work by the committee, has prevented the carrying forward of the movement so rapidly as might otherwise have been possible. A liberal appropriation for the purpose was made by the Board of Trustees, only a small part of which has been used. However, the committee has continued its work, tentatively, along the lines indicated in its first report, reaching results that are herewith offered in definite suggestions. It is hoped that these will receive sufficient discussion, and formal acceptance or amendment at the present meeting.

We have consulted, in regard to incorporation, the officers and members of the American Medical Association, who have been most familiar with the conduct of its business in recent years. On the question of a separate incorporation for the purposes of a relief fund and sanatorium there is general agreement that this is desirable. Although a few think this unnecessary, an equal number have been unwilling to have the trustees of the American Medical Association act, even temporarily, as custodians of the funds to be devoted to this purpose.

With reference to national incorporation under a special act of Congress, we have inquired of officers of somewhat similar associations organized under such authority, as to the advantages so conferred. For our purposes such incorporation would give no advantage, except, possibly, prestige and greater liberty as to holding meetings. It might have the distinct disadvantage of rendering the new corporation entirely independent of the American Medical Association. But under present political conditions it would probably be impossible to secure the necessary special act of Congress, at least for many years. The interests opposed to protection of the public health have recognized in the American Medical Association a most powerful influence in bringing about legislation which, while promoting public welfare, will diminish their excessive and immoral profits. Realizing this, they have undertaken to oppose everything emanating from the American Medical Association. The benevolence of our purpose in this direction would give us no greater advantage than the benevolence which led to the support of the pure food legislation, or the establishment of a department of public health. The difficulties of obtaining special legislation from Congress offer peculiar advantages for its defeat. The political forces opposed to us can readily prevent such legislation, through methods they are especially able effectively to use. It therefore seems unwise to seek national incorporation under a special act of Congress.

A charter under the general incorporation laws of the District of Columbia would have no advantage over a charter obtained under the corporation laws of one of the states. Inquiry has shown no particular advantage to be derived from a charter granted in the State of Illinois, the state under the laws of which the American Medical Association has been incorporated. For the American Medical Association the advantage was that of becoming a corporation of the state in which its property was situated. This advantage, which might be of considerable importance, will accrue to the new enterprise by incorporation under the laws of the state in which the sanatorium is to be located.

This brings forward the question of choosing a location for such an institution. We believe that this question should be decided by the House of Delegates, or by a larger committee than the present one, representative of all sections of the country. But it seems obvious that a sanatorium for the treatment of tuberculosis should be situated in the elevated region of the western part of the United States; and that a location in the eastern part of this region will be nearest to the mass of our membership, the prospective patients, and to those who are interested in them, or in the conduct of the institution. A decision as to the general region in which the sanatorium should be located might well be reached at any time. The selection of the exact tract of land for it may need to be delayed until the project has reached a considerably later stage of development.

In such an undertaking, time is absolutely necessary for the growth of funds to be devoted to these purposes. The administration of a relief fund can begin at any time that there is revenue for the purpose. The opening of a sanatorium might be accomplished in a few months. But the accumulation of a financial basis for such an undertaking will necessarily require years.

It would seem then that after the adoption of a general plan, which can be put forward as the purpose for which money is to be raised, the first thing to be done is to arouse the interest of our more active and influential members; to the end that we may collect from the medical profession, and those they can immediately influence, the nucleus of a fund, which, growing as such funds do by time and with increasing rapidity, shall render it possible to effect our purpose.

The collection of funds will immediately render necessary the designation of a custodian for them. Inquiry seems to show no serious reason why the Board of Trustees of the American Medical Association should not be entrusted with the care of this fund, to be held in trust until the organization contemplated for its permanent care and administration can be perfected.

When a definite purpose has been formulated and a custodian designated, a committee authorized to extend its organization into every state society should be appointed to raise the money needed for making a practical start. Your committee has already ventured to call the attention of presiding officers of state medical societies to the movement, with the suggestion that it be brought before their respective bodies.

We would recommend:

1. That the House of Delegates formally endorse the proposition to organize a corporation for the collection, care and administration of a relief fund and the supporting of a tuberculosis sanatorium: the relief fund, to be expended, so far as possible, with the cooperation of local medical organizations; the sanatorium to be located in the elevated region of the United States, west of the one hundredth meridian of longitude.

2. That a committee of five be appointed, with authority to add to their number one member from each state medical society, one from the society of the District of Columbia, and one from each of the government medical services, to bring the subject of the Relief Fund and Physicians' Sanatorium to the membership of state and local medical societies: to receive money for the purpose, and to pay it to the designated custodian.

3. That the trustees of the American Medical Association be authorized and instructed to receive and hold as trust funds through such custodian as they may designate, all moneys collected for the above purpose: subject to the direction of the House of Delegates.

4. That a committee of five be instructed to prepare a plan of incorporation under the laws of the state of ...... and submit the same to the House of Delegates at its next annual meeting.

EDWARD JACKSON, Chairman.
JEFFERSON R. KEAN.
A. T. BRISTOW.
H. B. ELLIS.
A. C. MAGRUDER, Secretary.

Report of Reference Committee on Legislation and Political Action

Dr. J. N. Hurty, Indiana, Chairman, read the report of the Reference Committee on Legislation and Political Action, as follows:

Your Reference Committee on Legislation and Political Action has the honor to report that it has considered the resolutions of the St. Louis Medical Society relating to a reduction of tariff on imported surgical and optical instruments and glassware and scientific books written in English; and indorses the same, respectfully recommending that the House of Delegates adopt it.

J. N. HURTY, Chairman.

On motion, report was adopted.

Reconstruction of Judicial Council

Dr. John B. Roberts, Pennsylvania, moved a reconsideration of the motion adopted at a previous session of the House with reference to the formation of a Judicial Council, which motion was duly seconded and carried.

Dr. Arthur T. McCormack, Kentucky, chairman of the Reference Committee on Amendments to the Constitution and By-Laws, then moved the adoption of the following substitute for the amendment to Chapter IX of Section 4 of the By-Laws which had been offered at a previous session, which motion was uly seconded and carried:

Section 4. JUDICIAL COUNCIL. The Judicial Council shall consist of five members, who shall be nominated by the President and elected by the House of Delegates. At the annual session in 1911 one member shall be elected to serve for five years, one for four years, one for three years, one for two years and one for one year, and thereafter one member shall be elected each year to serve for five years. It shall select a chairman from its membership. The Secretary of the Association shall be, *ex officio*, Secretary of the Council. It shall expend money and contract debts only on the authority of the Board of Trustees. It shall keep a permanent record of its actions at its office which shall be at the headquarters of the Association. It shall make an annual report of its decisions and the results of its investigations to the House of Delegates.

The judicial power of the Association shall be vested in the udicial Council, the decisions of which shall be final, and shall extend, (1) to all cases arising under this constitution and by-laws; (2) to all controversies to which the American Medical Association is a party; to controversies, (3) between two or more recognized state or territorial associations, these being constituent associations within the meaning of Article 4 of the Constitution; (4) between a constituent association and members of another association; (5) between members of different constituent associations.

In all cases in which the American Medical Association or one of its constituent associations is a party the Judicial Council shall have original jurisdiction. In all other cases before mentioned the Judicial Council shall have appellate jurisdiction, both as to law and fact, with such exceptions and under such regulations as it may adopt and publish in THE JOURNAL, provided that such regulations must be approved by the next ensuing session of the House of Delegates, and be officially certified to each constituent association. The Judicial Council may investigate professional conditions and all matters pertaining to the relations of physicians to one another and to the public and shall make such recommendations to the House of Delegates and the constituent associations as it deems necessary.

Dr. A. R. Mitchell, Nebraska, moved that the proposed amendment be printed and distributed before final action is taken by the House at to-morrow's session. Seconded and carried.

Report of Committee on Awards in Scientific Exhibit

The Secretary read the report of the Committee on Award of Prizes in the Scientific Exhibit, as follows:

Your Committee on Award of Prizes in the Scientific Exhibit, after careful inspection and mature deliberation, has unanimously agreed on the following awards:

A. FOR THE BEST RESEARCH EXHIBIT

1. *Gold Medal* awarded to the exhibit of the United States Public Health and Marine-Hospital Service for its exhibit of preparations and material concerned with research in plague and leprosy.
2. *Certificate of Honor* for research exhibit on investigation of pernicious malarial infection with reference to malarial hemolysins, awarded to Dr. Walter V. Brem, Colon Hospital, Cristobal, Canal Zone.
3. *Certificate of Honor* for research exhibit on nephritis, awarded to Drs. William Ophuls and Ernest C. Dickson, Cooper Medical College, Leland Stanford University.
4. *Certificate of Honor* for research exhibit on classification and identification of the parasites of the order of *Trematoda*, awarded to Drs. Henry B. Ward and E. F. Hirsch, Zoologic Department, University of Illinois.

B. FOR THE BEST GENERAL EXHIBIT

1. *Gold Medal*, awarded to pathologic exhibit of Hendryx Laboratory of the Los Angeles Medical Department, University of California.
2. *Certificate of Honor* awarded to Cooper Medical College, Leland Stanford University.

H. GIDEON WELLS,
M. P. RAVENEL,
W. E. MUSGRAVE.

On motion, the report was adopted.

Message to Taft on Pure Food and Drugs and on Department of Health

Dr. Hubert Work, Colorado, offered the following preamble and resolutions:

WHEREAS, It is believed by those best informed on the subject that there are 2,000,000 cases of sickness and 500,000 deaths in the United States every year from the use of impure food and drugs, and from diseases which are practically preventable and which ought to be prevented.

Resolved, That in the name of the medical profession and people of the United States, the American Medical Association extends its cordial thanks to President Taft for the magnificent fight he is making for pure food and pure drugs, and for the creation of a bureau or a department of health to insure the same protection to the health and lives of the people that the Department of Agriculture is so properly and ably giving to domestic animals and crops.

Resolved, That the Secretary of the Association be instructed to wire this resolution to the President of the United States.

On motion, the resolutions were adopted.

Resolution on Department of Health

Dr. Arthur T. McCormack, Kentucky, presented the following preambles and resolution:

WHEREAS, Honorable Robert L. Owen, Senator from Oklahoma, has introduced in the Senate of the United States Senate Bill No. 1, to create a department of public health for the purpose of giving the proper study to the causes of disease; and

WHEREAS, Such a department has been formally approved in the platforms of all our great political parties, and by President

Roosevelt and President Taft, in order that our country might be placed on a plane with the other civilized nations of the world in the conservation of our greatest national asset—the health and lives of our people; and

Whereas, Through sinister and corrupt efforts of the "patent-medicine" manufacturers, and those opposed to the honest administration of the pure food and drugs laws, many worthy persons have been misled into believing that this great measure, designed solely for the protection of the public health and for the prevention of disease, is designed to have any jurisdiction in limiting the practice of medicine; now, therefore, be it

Resolved, That the American Medical Association pledges its support to the principles of the Owen bill, Senate Bill No. 1, to create a department of public health; that it repudiates and denounces the misrepresentation of this measure and the base slanders against the medical profession distributed through the corrupt efforts of the interests which are behind the so-called League of Medical Freedom; that it declares itself as distinctly opposed to any efforts now or hereafter by Congress to regulate or control the practice of medicine, or to discriminate for or against any school or system of practice as a violation of the Constitution of the United States; and in order better to give effect to the principles set forth, be it further

Resolved, That the Board of Trustees, and the Council on Health and Public Instruction, The Journal and every other agency of this Association, be, and are hereby, instructed to use every honorable means to secure the passage of this measure; and that the Committee on National Health Organization be continued with the addition of Dr. J. B. Murphy, the President of the Association, and Dr. G. B. Young, representing the United States Public Health and Marine-Hospital Service, and that this committee, acting with the Council on Health and Public Instruction, shall consider and determine all matters and policies relating to national health legislation, and may invite the cooperation of and cooperate with state and county medical associations, and all other organizations having the same purpose in view.

On motion, the rules were suspended, and the resolution was adopted.

Trustees Empowered to Adjust Postoffice Matter

Dr. W. C. Woodward, District of Columbia, offered the following resolution, which was referred to the Board of Trustees:

Whereas, The Postmaster-General is endeavoring to carry into effect the laws and postal regulations relating to the carriage of second-class mail matter.

Resolved, That the Board of Trustees be and hereby is instructed to take such action, if any, as may in their judgment be necessary to make the business methods of the American Medical Association relating to the publication and distribution of The Journal conform with the laws and regulations aforesaid.

Proposed Committee on Obstetric Nomenclature

Dr. A. E. Benjamin, Minnesota, reported from the Section on Obstetrics and Gynecology, for the action of the House of Delegates, that in that Section Dr. T. Mitchell Burns, Denver, moved that a committee be appointed on obstetric terminology, especially in reference to the anatomy of the bony pelvis, the bony floor, and the reproductive organs and the fetal head. This was carried.

The resolution was referred to the Reference Committee on Sections and Section Work.

Discussion of Universal Membership Plan

Dr. John B. Roberts, Pennsylvania, moved that the House of Delegates go into a committee of the whole for the purpose of discussing the subject matter presented by the Reference Committee on Amendments to the Constitution and By-Laws relating to membership, which motion was duly seconded and carried.

The House then went into a committee of the whole.

When the committee arose it reported to the House, recommending that it appoint a committee of five from its own membership, who shall formulate definite amendments to the Constitution and By-Laws on the advice of counsel, and, on their approval by the Board of Trustees, shall submit them, together with these amendments, the discussion of to-day, and such other data as they may deem necessary to make the question clear, to the constituent associations and through them to the general membership.

On motion, the report was adopted.

Discussion on Official Button

Dr. Samuel P. Gerhard, Philadelphia, was given five minutes in which to speak on the official button, which he did, after which the President suggested that Dr. Gerhard appear before the Reference Committee on Reports of Officers, who still had this subject under consideration.

Honorary Membership Plan Called For

Dr. Oscar Dowling, Louisiana, requested the Council on Health and Public Instruction to report on a resolution that had been referred to it at the annual session of 1910, recommending the establishment of a form of honorary membership to include old and distinguished physicians in the national organization.

Preventive Medicine Resolutions

The Secretary read the following resolutions from the Section on Preventive Medicine and Public Health; which were referred to the Reference Committee on Hygiene and Public Health.

The Section on Preventive Medicine recommends to the House of Delegates, for its adoption, the following proposals on the investigation and control of syphilis and gonococcus infections:

1. That syphilis and gonococcus infections be made reportable.
2. That boards of health be supported by the medical profession in controlling the sources of infection of these diseases without prejudice as to sex or occupation.
3. That the medical profession do everything in its power to advance the moral and ethical issues involved.
4. That measures for popular education relating to these diseases be encouraged by every member of the Association.
5. That the American Association for Sex Hygiene be invited to confer with the Council on Health and Public Instruction in order to develop practical methods for obtaining the desired results.

L. M. Powers,
Frances M. Greene,
William F. Snow,
Committee.

On motion, the report was adopted.

And further:

To the Chairman and Members of the Section on Preventive Medicine and Public Health: If the following resolution has not already been passed by the House of Delegates on some previous occasion, we desire to make it as a supplementary report:

Whereas, The belief and teaching on the part of some of the laity and possibly on the part of some of the medical profession that sexual intercourse on the part of the adult male is essential to sound health is calculated to encourage promiscuous intercourse among those not better informed:

Resolved, By the American Medical Association that in the opinion of the Association continence is not inconsistent with perfect health on the part of individuals of either sex, and promiscuous intercourse seriously jeopardizes the health of the individual and gravely menaces the integrity of the race.

L. M. Powers,
Frances M. Greene,
William F. Snow,
Committee.

On motion, the House of Delegates adjourned until 2 p. m. Thursday.

Fifth Meeting—Thursday Afternoon, June 29

The House of Delegates met at 2 p. m. and was called to order by President Murphy.

The Secretary called the roll and ninety-seven members responded. On a second calling of the roll, 119 members were recorded as present.

Dr. D. Chester Brown, Connecticut, Chairman, presented a supplementary report of the Committee on Credentials, which showed that 131 delegates had registered.

The minutes of the previous session were read and approved.

Election of Officers

The election of officers being in order, the President appointed as tellers Drs. C. S. Sheldon, Wisconsin; Oscar Dowling, Louisiana, and W. L. Brittin, Illinois.

The following were elected:

President, Abraham Jacobi, New York.

First Vice-President, Dr. William Jarvis Barlow, Los Angeles, Cal.

Second Vice-President, Dr. F. W. McRae, Atlanta, Ga.

Third Vice-President, Dr. W. R. Tipton, Las Vegas, N. Mex.

Fourth Vice-President, Dr. A. L. Wright, Carroll, Iowa.

Secretary, Dr. Alexander R. Craig, Chicago, Ill.

Treasurer, Dr. William Allen Pusey, Chicago, Ill.

Trustees, Dr. Philip Marvel, Atlantic City, N. J.; Dr. Philip Mills Jones, San Francisco, Cal.; Dr. W. T. Sarles, Sparta, Wis.

CHAIRMAN OF COMMITTEE ON TRANSPORTATION AND PLACE OF SESSION. Dr. J. Rawson Pennington, Chicago, Ill.

On nomination by the President, the House elected the following:

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION (one member). Dr. Henry B. Favill, Chicago, Ill.

COUNCIL ON MEDICAL EDUCATION (one member). Dr. John A. Witherspoon, Nashville, Tenn.

JUDICIAL COUNCIL. Dr. Hubert Work, Denver, Colo., five years; Dr. James E. Moore, Minneapolis, Minn., four years; Dr. Alexander Lambert, New York City, three years; Dr. A. B. Cooke, Nashville, Tenn., two years, and Dr. Frank Billings, Chicago, Ill., for one year.

Honorary Member Elected

Dr. A. F. Jonas, Nebraska, presented the name of Mr. Harold J. Stiles, Edinburg, Scotland, from the Section on Surgery, for honorary membership, stating that this section had recommended his election.

On motion, the recommendation was concurred in.

Report of Reference Committee on Reports of Officers

Dr. George W. Guthrie, Pennsylvania, presented the report of the Reference Committee on Reports of Officers, as follows:

Yoar Committee Recommends:

1. *Public Lectures at Annual Session.*—That the President be authorized to appoint a committee of five to arrange for a demonstration to the public by a series of appropriate lectures as a part of the annual exercises attending the next session.

2. *Clinics at Annual Session.*—That another committee of five be appointed by the President to arrange for one clinic day before and one day after the close of the annual session.

3. *Small Medical Journal.*—That the President be authorized to appoint another committee of five to investigate and report at the next annual meeting as to the advisability of publishing a small medical journal as suggested in the address of the president.

4. *Health Journal for Laity.*—That another committee of five be appointed to investigate and report at the next annual meeting the advisability and feasibility of publishing a health journal for distribution among the laity.

5. *Greetings to Educational Association.*—That the House of Delegates heartily approves of the suggestion of the President that a committee of five be appointed to bear the greetings of the American Medical Association to the National Educational Association, which meets in San Francisco, July 8-14, 1911.

6. *Judicial Council.*—The committee reaffirms its approval of the President's recommendation for the recreation of a Judicial Council concerning which action has already been taken by this body.

GEORGE W. GUTHRIE.
D. S. FAIRCHILD.
J. R. KEAN,
OSCAR DOWLING.

On motion, the report was accepted and the recommendations concurred in.

President Murphy appointed as a committee to bear the greetings of the American Medical Association to the National Educational Association, Drs. Joseph L. Milton, Oakland, Cal.; Philip King Brown, San Francisco; H. L. E. Jonnson, Washington, D. C.; R. W. Corwin, Pueblo, Colo., and F. W. Snow, Sacramento, Cal.

Report of Reference Committee on Section Work

Dr. Walter L. Bierring, Ia., Chairman, presented the report of the Reference Committee on Sections and Section Work with reference to a resolution referred to it from the Section on Ophthalmology, as follows:

PROPOSAL FOR BETTER OPHTHALMOLOGIC TRAINING

WHEREAS, A thorough preparation for ophthalmic practice requires the study of certain subjects not demanded of the candidate for the degree of doctor of medicine,

Resolved, That the American Medical Association, through its Section on Ophthalmology and its House of Delegates, expresses the desire that at an early date courses in ophthalmology requiring previous graduation in medicine and one year's work in an accredited ophthalmic hospital and dispensary service shall be established in each medical school possessing the necessary facilities.

Resolved, That the Council on Medical Education is hereby requested to consider the curriculum for such a course.

These resolutions were unanimously approved by the Section, and we recommend that they be approved by the House of Delegates.

On motion, the resolutions were approved.

The Committee on Sections and Section Work presented two other matters which were referred to it, as follows:

1. We recommend that the resolution received from the Section on Obstetrics and Gynecology, introduced in that Section by Dr. T. Mitchell Burns, of Denver, be referred to the Committee on Nomenclature and Classification of Diseases.

PROPOSED AMENDMENT TO PRINCIPLES OF ETHICS

2. The following has been received by the Committee from the Section on Preventive Medicine and Public Health:

"The committee on the reporting of typhoid fever of the American Public Health Association respectfully recommends to the American Medical Association that the principles of Medical Ethics be amended as regards Chapter III, Section 2, Enlightenment of Public on Sanitary Matters—Duties in Epidemics, as follows: It is the province of physicians *engaged in public health work* to enlighten the public in regard to quarantine regulations; to the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their *the* duty *of all physicians* to face the danger, and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives, *not omitting the foremost duty at any and all times of notifying the properly constituted public health authorities of every case of infectious or contagious disease of which they become aware!*" (Italicized words are proposed for insertion.)

Your committee refers this matter to the House with the suggestion that the subject be referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Officers of Section on Hospitals

The President stated that as a new section had been established, namely, the Section on Hospitals, it became necessary for him to name the officers of the section: Chairman, Dr. W. B. Russ, San Antonio, Tex.; secretary, Dr. John A. Hornsby, Chicago; executive committee, Dr. Joseph Beckton, Greenville, Tex.; Dr. Edward Jackson, Denver, and Dr. A. L. Brittin, Athens, Ill.

Report of Reference Committee on Hygiene

Dr. Alexander Marcy, New Jersey, Chairman, presented the report of the Reference Committee on Hygiene and Public Health, as follows:

Your Reference Committee on Hygiene and Public Health strongly endorses and urges the adoption of the following recommendation:

For generations these infections have been destroying the lives of men, women and children, have been causing misery and unhappiness beyond words to express, and yet the medical profession, fully cognizant of these conditions, have not unitedly tried to overcome them.

At the present time, there is no greater problem for the profession to solve, or more important work for the American Medical Association to undertake than the question of the study and control of venereal diseases, and while your Committee recognizes the fact that this question is not alone a medical one, yet there is so much of it that is purely medical that we feel that the Council on Health and Public Instruction should be instructed by this House of Delegates to appoint a special committee to investigate and study this subject and to report their conclusions to the next session of this Association.

GARDNER T. SWARTS,
W. E. MUSGRAVE,
T. D. TUTTLE,
ALEXANDER MARCY, JR., Chairman.

It was moved and seconded that the report, with its recommendations, be adopted, and after discussion, which was participated in by Drs. A. T. Bristow, New York, W. C. Woodward, District of Columbia, and Alexander Marcy, New Jersey, the motion to adopt was put and carried, and the report was referred to the Council on Health and Public Instruction, to report next year.

Election of Associate Members

The Secretary presented a list of names submitted by the Section on Stomatology and the Section on Pharmacology and Therapeutics, with the recommendation that they be elected to associate membership, and on motion the recommendation was concurred in.

The list is as follows:

Dr. C. Deichmiller, Los Angeles, Cal.
Dr. Robert T. Moffatt, Boston.
Dr. H. B. Shuman, Boston.
Dr. Walter Bradford, Boston.
Dr. Joseph E. Farnum, Providence, R. I.
Dr. M. Evangeline Jordon, Los Angeles, Cal.
Dr. Benjamin A. Green, Three Rivers, Mass.
Dr. Henry James Fettus, Baton Rouge, La.
Dr. Alvin Wallave Viney, Pasadena, Cal.
Dr. Harry Alonzo Fulsom, Los Angeles, Cal.
Dr. H. G. Chappel, Oakland, Cal.
Dr. W. H. Wherry, Ogden, Utah.
Dr. Charles W. Greene, Columbia, Mo.

Report of Reference Committee on Constitution

The President called for a report from the Reference Committee on Amendments to the Constitution and By-Laws.

Dr. Arthur T. McCormack, Kentucky, Chairman, stated that the committee recommended the adoption of the amendment to Chapter IX, Section 4, of the By-Laws, relating to the Judicial Council, which was printed and distributed yesterday. Accordingly he moved its adoption.

Motion seconded and carried.

Report of Reference Committee on Reports of Officers

BUTTON DESIGN REAPPROVED

Dr. George W. Guthrie, Pennsylvania, Chairman, stated that the Reference Committee on Reports of Officers had a supplementary report to make relative to the matter of the button of the Association. The committee believes the difficulty of manufacture of the button at a reasonable cost will be overcome by competition, and the committee recommends that the wishes of the Association, as expressed at the last session, be carried out.

On motion, the report was adopted.

The President called for a report from the Committee on Transportation and Place of Session.

Dr. M. L. Harris, Illinois, Chairman, reported that the association had been invited to three places, namely, St. Paul, Louisville and Atlantic City. The committee recommended that Atlantic City be chosen as the place for holding the next annual session.

On motion, the recommendation was concurred in.

Report of Judicial Council

ADMISSION OF PORTO RICO DEFERRED

Dr. Alexander Lambert, New York, reported for the Judicial Council as follows:

> The Judicial Council desires to make the following report on the admission of the Medical Association of Porto Rico as a component part of the American Medical Association:
>
> The documents presented have been examined and found to comply technically with the requirements of the American Medical Association. A copy of the constitution and by-laws, a certified list of the members of the association and a resolution requesting admission into the American Medical Association are all present. But there are provisions in the constitution and by-laws of the Porto Rico Association which conflict with the standards requisite for admission of component parts of the American Medical Association. Your Committee therefore recommends that the Secretary of the American Medical Association be instructed to send to the Medical Association of Porto Rico a copy of the Constitution and By-Laws of the American Medical Association and a sample copy of the constitution and by-laws of a component association to the American Medical Association which do not conflict with the rules and regulations of the American Medical Association, necessary for admission as a component society thereof, and that further action be deferred until such a constitution and by-laws have been adopted by the Porto Rico Medical Association.

On motion, the report was adopted.

Committee on Uniform Membership Announced

The President appointed the following as the Committee on Uniform Membership: Dr. Thomas McDavitt, St. Paul, Minn.; Dr. E. W. Weis, Ottawa, Ill.; Dr. Joseph Martin, New Orleans; Dr. E. J. Goodwin, St. Louis, and Dr. Claude A. Thompson, Muskogee, Okla.

Thanks Expressed to Los Angeles Entertainers

Dr. Hubert Work, Colorado, offered the following resolution of thanks:

> The House of Delegates, representing the American Medical Association, desires to express its thanks to the Los Angeles Chamber of Commerce, to its Convention League and to the Los Angeles County Medical Association for their prodigal hospitality and for opening to us a score or more palatial auditoriums for the use of the Association and its subdivisions for sectional work. It particularly wishes to voice its appreciation of the services of that masterly executive and prince of entertainers, Dr. H. Bert Ellis, Chairman of the local Committee on Arrangements and of the official services of Dr. Philip Mills Jones, for years California's representative in the House of Delegates and later the representative of the Pacific Slope on our Board of Trustees. To the retiring officers, who have so signally dignified the American Medical Association through their professional achievements in impartial rulings and in patience in petty matters so essential to the integrity of the profession and its organization, we wish to express our unqualified admiration.
>
> Los Angeles will never again be called on to defend her title, "The Queen Hostess Among American Cities," and with one voice we shall say on departing, "Not good-bye, but *au revoir*."

On motion, the resolution was adopted unanimously by a rising vote, it having been presented after unanimous consent had been obtained.

Better Paid Public Health Service Approved

Dr. W C. Woodward, District of Columbia, asked unanimous consent, which was granted, to present the following resolution:

> *Resolved*, That the American Medical Association expresses its approval of legislation looking toward the bettering of the compensation of officers in the United States Public Health and Marine-Hospital Service, and urges the enactment in its present form by the House of Representatives of the bill just enacted by the Senate to accomplish that end.

On motion, the resolution was adopted.

Appreciation of Dr. Simmons' Work

Dr. John B. Lowman, Pennsylvania, asked unanimous consent, which was granted, to present the following:

> The House of Delegates desires to express its appreciation of the great services to the American Medical Association of its Secretary for many years, Dr. George H. Simmons, whose ability as an executive officer has done so much to bring the detail work of the Association to such a high state of efficiency. It congratulates itself on the fact that Dr. Simmons' declination this year to succeed himself as Secretary, and the consequent election of another member, will not cause the Association to lose his unusual powers in the services of this body as the Editor of its JOURNAL.

On motion, this was declared to be the sense of the House.

President Murphy stated that there were other committees to be appointed, and with the permission of the House, he would postpone these appointments until a later date.

There being no further business, on motion the House of Delegates adjourned *sine die*.

Members of House of Delegates in Attendance

[The figures indicate the number of delegates to which the state is entitled.]

ALABAMA—3
S. L. Ledbetter...Birmingham
Seale Harris ....Mobile

ARIZONA—1
Ancil Martin ....Phoenix

ARKANSAS—2
Joseph T. Clegg..Siloam Spgs.
G. A. Warren......Black Rock

CALIFORNIA—3
Joseph L. Milton.....Oakland
O. D. Hamilton......Oakland
G. MacGowan....Los Angeles

COLORADO—2
Hubert Work ....Pueblo
Edward Jackson ......Denver

CONNECTICUT—2
E. J. McKnight......Hartford
D. Chester Brown....Danbury

DELAWARE—1
H. R. Spruance....Wilmington

DISTRICT OF COLUMBIA—1
W. C. Woodward..Washington

FLORIDA—1

GEORGIA—2
Dunbar Roy..........Atlanta
W. C. Lyle..........Augusta.

HAWAII—1

IDAHO—1
A. A. Higgs............Boise

ILLINOIS—9
W. F. Grinstead.........Cairo
G. S. Rainey...........Salem
J. E. Allaben........Rockford
A. L. Brittin..........Athens
J. L. Wiggins.....E. St. Louis
E. J. Brown.........Decatur

INDIANA—4
Edwin Walker .....Evansville
J. B. Garber.........Dunkirk
Allison Maxwell..Indianapolis

IOWA—3
D. S. Fairchild........Clinton
F. E. V. Shore....Des Moines
E. Hornibrook.......Cherokee

ISTHMIAN CANAL ZONE—1
W. C. Gorgas..........Ancon

KANSAS—2
P. S. Mitchell............Iola
M. Trueheart ....Sterling

KENTUCKY—4
C. Z. Aud............Cecilian
W. W. Richmond......Clinton
M. E. Alderson....Russellville
A. T. McCormack.Bowling Gr'n

LOUISIANA—2
Jos. D. Martin...New Orleans
Oscar Dowling ....Shreveport

MAINE—1
A. D. Sawyer....Fort Fairfield

MARYLAND—2
Randolph Winslow..Baltimore
James J. C[illegible]ll....Baltimore

MASSACHUSETTS—6
Horace D. Arnold......Boston
Roger J. Lee..........Boston
Fred T. Murphy.......Boston
F. H. Thompson....Fitchburg
F. G. Wheatley...N. Abington
Hugh Cabot ....Boston

MICHIGAN—3
A. D. Holmes..........Detroit
R. R. Smith....Grand Rapids

MINNESOTA—2
C. F. McComb.........Duluth

MISSISSIPPI—2
J. W. Young.........Grenada

MISSOURI—5
J. Franklin Welch...Salisbury
J. H. Brummall.....Salisbury
C. R. Woodson.....St. Joseph
E. J. Goodwin......St. Louis
R. M. Funkhouser...St. Louis

MONTANA—1
T. D. Tuttle..........Helena

NEBRASKA—2
F. A. Long..........Madison
A. R. Mitchell........Lincoln

NEVADA—1
J. E. Pickard...........Reno

NEW HAMPSHIRE—1
C. B. Nichols. Los Angeles, Cal.

NEW JERSEY—3
Alexander Marcy ....Riverton
E. L. B. Godfrey.....Camden
G. N. J. Sommer.....Trenton

NEW MEXICO—1
L. L. Cahill........Springer

NEW YORK—11
J. C. MacEvitt.....Brooklyn
W. H. Thornton......Buffalo
W. W. Strang..New York City
J. E. Weeks...New York City
D. H. Murray.......Syracuse
A. T. Bristow.......Brooklyn
E. E. Cornwall......Brooklyn
S. W. S. Toms.........Nyack
James W. Fleming...Brooklyn
W. B. Hambidge..Ogdensburg
Edgar A. Vander Veer..Albany

NORTH CAROLINA—2

NORTH DAKOTA—1
Victor H. Stickney..Dickinson

OHIO—7
B. R. McClellan........Xenia
P. B. Brockway.......Toledo
B. H. Blair.........Lebanon
G. E. Robbins.....Chillicothe
J. E. Tuckerman....Cleveland
E. J. March..........Canton
E. O. Smith.......Cincinnati

OKLAHOMA—2
Claude Thompson....Muskogee
E. E. Rice..........Shawnee

OREGON—1
C. J. Smith........Pendleton

PENNSYLVANIA—9
W. B. Scull....Philadelphia
John B. Roberts..Philadelphia
Geo. W. Guthrie..Wilkes-Barre
John B. Lowman...Johnstown
T. D. Appel.......Lancaster
G. S. Nutt.....Williamsport
M. H. Fussell...Philadelphia
Lewis H. Adler...Philadelphia
A. C. Morgan....Philadelphia

PHILIPPINE ISLANDS—1
W. E. Musgrave.......Manila

RHODE ISLAND—1
G. T. Swarts......Providence

SOUTH CAROLINA—2
John L. Dawson....Charleston
Edgar A. Hines........Seneca

SOUTH DAKOTA—1
T. B. Smiley......Mt. Vernon

TENNESSEE—3
John L. Jelks.......Memphis
A. B. Cooke.........Nashville
S. R. Miller........Knoxville

TEXAS—5
W. B. Russ......San Antonio
W. L. Brown.........El Paso
A. C. Scott..........Temple
Vard H. Hulen.......Houston
Joe Becton ....Greenville

UTAH—1
A. A. Kerr.....Salt Lake City

VERMONT—1

VIRGINIA—3
W. E. Anderson.....Farmville

WASHINGTON—2
J. R. Yocum..........Tacoma
Wilson Johnston .....Spokane

WEST VIRGINIA—2
F. L. Hupp.........Wheeling

WISCONSIN—3
B. M. Caples.......Waukesha
C. S. Sheldon.......Madison
Richard F. Werner. Eau Claire

WYOMING—1
H. R. Lathrop.........Casper

Delegates from the Sections

PRACTICE OF MEDICINE
Alex. Lambert..New York City

SURGERY
A. F. Jonas...........Omaha

OBSTETRICS AND GYNECOLOGY
A. E. Benjamin...Minneapolis

OPHTHALMOLOGY

LARYNGOLOGY, OTOLOGY AND RHINOLOGY

DISEASES OF CHILDREN
A. C. Cotton.........Chicago

PHARMACOLOGY AND THERAPEUTICS
Reid Hunt..Washington, D. C.

PATHOLOGY AND PHYSIOLOGY
Walter L. Bierring..........
.........Des Moines, Iowa

STOMATOLOGY
G. V. I. Brown.....Milwaukee

NERVOUS AND MENTAL DISEASES
E. D. Fisher...New York City

DERMATOLOGY

PREVENTIVE MEDICINE AND PUBLIC HEALTH
J. N. Hurty......Indianapolis

GENITO-URINARY DISEASES

Delegates from Government Services
Jefferson R. Kean..U. S. Army
C. P. Bagg........U. S. Navy
G. B. Young.............
...U. S. P. H. and M.-H. S.

Reference Committees of the House of Delegates

SECTIONS AND SECTION WORK
W. L. Bierring...........
.........Iowa, Chairman
Seale Harris.......Alabama
Edward Jackson.....Colorado
A. F. Jonas........Nebraska
R. R. Smith.......Michigan
C. S. Huffman........Kansas
W. E. Musgrave..........
........Philippine Islands
G. T. Swarts....Rhode Island
T. D. Tuttle........Montana

RULES AND ORDER OF BUSINESS
J. E. Weeks............
..... New York, Chairman
Joseph Clegg.......Arkansas
O. D. Hamlin.....California
A. C. Kimberlin .....Indiana
G. Lane Taneyhill..Maryland

MEDICAL EDUCATION
H. D. Arnold............
.. Massachusetts, Chairman
Reid Hunt ....D. C.
D. R. McClellan..........Ohio
C. F. McComb.....Minnesota
A. R. Mitchell ......Nebraska

LEGISLATION AND POLITICAL ACTION
J. N. Hurty............
...... Indiana, Chairman
B. M. Caples.......Wisconsin
A. B. Cooke......Tennessee
W. C. Gorgas.....Canal Zone
G. B. Young............
......P. H. & M.-H. Service

HYGIENE AND PUBLIC HEALTH
Alexander Marcy ......
....New Jers

an

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS
A. T. McCormack ....
..... Kentucky, Chairman
John B. Roberts..Philadelphia
W. B. Russ............Texas
C. S. Sheldon......Wisconsin
J. W. Young......Mississippi

REPORTS OF OFFICERS
G. W. Guthrie ....
.. Pennsylvania, Chairman
E. J. Brown...........Illinois
Oscar Dowling.....Louisiana
D. S. Fairchild...........Iowa
J. R. Kean.......U. S. Army

CREDENTIALS
D. Chester Brown.......
... Connecticut, Chairman
E. J. Goodwin.......Missouri
E. A. Hines..South Carolina
W. W. Richmond...Kentucky
J. E. Tuckerman.........Ohio

MISCELLANEOUS BUSINESS
Hubert Work............
.......Colorado, Chairman
A. T. Bristow......New York
Ancil Martin ...... .Arizona
A. D. Sawyer.........Maine
V. H. Stickney..North Dakoa

THE OPENING MEETING OF THE ASSOCIATION

Tuesday Morning, June 27

The general meeting of the Association was held in the Baptist Auditorium, and was called to order at 10:30 a. m. by the President, Dr. William H. Welch, Baltimore.

Prayer was offered by the Rt. Rev. Joseph H. Johnson, Los Angeles.

Dr. W. Jarvis Barlow, President of the Los Angeles County Medical Association, was introduced, and delivered the following

Address of Welcome

Mr. President, Fellow Members of the American Medical Association, Ladies and Gentlemen:—On behalf of the medical profession of Los Angeles County, I extend to you a sincere and hearty welcome to a section of the country where many, who have stayed with us longer than a week, have considered it a veritable Paradise. This means that if any of you remain over Sunday with us our population will increase more than it has at its present rate, namely, ten thousand a month.

To have been selected by the medical profession to the position of welcoming this national body to our city is to me a great honor, for there is no organization on this earth of which one may feel more proud than that of the American Medical Association for its results already accomplished and its work now in progress. The meeting of this medical association in any community is an inspiration to the people who attend it, and I wonder sometimes if its leaders realize the good resulting to the Association by its occasionally selecting for its meeting new localities.

The different sections are brought into closer touch with each other. New people are taught the prevention of disease, and learn what scientific medical men are thinking and doing. We have felt inspiration here, both lay and medical people, and since the announcement of your coming our local society has gained nearly one hundred new members this year, now numbering something over five hundred. I hope some of you will stay and join us. We need well equipped medical men in every line. Although we enjoy the privileges of an equable climate, full of sunshine, and the possibilities of leading an outdoor life the whole year around, we feel isolated at times from the great centers of scientific progress and the well equipped laboratories which you great men of the East never miss. These are the difficulties which separate us, and which I feel are the only disadvantages of southern California.

Much has been done for our meeting and for your entertainment. We have taken the keenest pleasure in preparing for your coming, and I hope you will all enjoy yourselves to the utmost. We are a united family, take pride in our work, and continue to lift our eyes to the cause of human progress for the purpose of advancing civilization, and last, but best of all, for the prevention of disease. I thank you heartily for your presence here to-day and again welcome you. (Applause.)

Welcome From State Society

Dr. Thomas W. Huntington, San Francisco, President of the State Medical Association of California, speaking for that body, said:

Mr. President, Fellow Members of the American Medical Association, Ladies and Gentlemen:—Despite the embarrassment and the responsibility which goes with the circumstances, I feel a high degree of pleasure in being permitted on this occasion to bear the message of a hearty welcome from the State Medical Association of California to the greatest Association on the American continent. Four times within its history this Association has faced the setting sun and has crossed the Sierras. Once you came here in the middle seventies, and I doubt if there be anyone here to-day with a personal experience that compasses that period. Yes, I am inclined to think that there is one person here who was present on that occasion, and he is a Californian. In the middle of the eighties you were with us. We recognized you then as a very growing and prosperous body. You came to us again at Portland, Ore., in 1905, and again we saw what we see to-day, a magnificent body of men, but smaller, yet unequaled by any body of men in the world, and associated with a community which it is a delight to honor.

We as the members of the State Medical Association of California, as residents of California, and as members of a common brotherhood of the Pacific Slope, extend to this Association a very hearty welcome. We hope that you will come here to stay, but we know that you will not. We know you have your mission at home. You have your work to do, and you are doing it grandly, but those who can spend a week or a month here will not have spent their lives in vain.

In closing, you will pardon me if I take a second of time to make a purely personal allusion. I want to say to the members of this Association that we of California join with you in once more paying a tribute to one whom we love and whom you have honored as President of this great body, Dr. William H. Welch, who has exerted an influence on medical thought and on scientific endeavor which has proved an inspiration to all of us. He has increased the usefulness of life, he has smoothed the pathway, and brightened the lives of every medical man or woman within his jurisdiction. In grateful recognition of his well-sustained honor, and with generous appreciation of his personal work, in your wisdom you have chosen to honor him for like reason, and we of the Pacific Slope join with you in according to him a conspicuous place in the front rank of American physicians. (Applause.)

Welcome From the City of Los Angeles

Hon. George Alexander, Mayor of Los Angeles, said:

Mr. President, Ladies and Gentlemen:—It is a pleasure for me this morning to welcome to our city these delegates from all parts of our country, who have come here to discuss the great subjects connected with the medical profession. It has been my pleasure in the past two years to welcome many organizations to our city who have seen fit to hold their conventions here. But this convention is something unusual. This convention is composed of men who will bring more benefits to our people than the men of any other profession whom I have welcomed in the past. We need the members of the medical profession. Sometimes we need them badly. I want to say to you, that when you are not engaged in your work here I trust you will visit the city and other parts of southern California. We have got a good and splendid country to live in. We want all of you to see our mountains, our beaches, our Catalina Islands, and our orange groves. We want you to see what we have got. We think we have got something here that will entice many of you to become residents of Los Angeles. We want you to have a good time while you are here, and we hope you will be so lavishly entertained that you will be glad to come again. Our climate is very attractive for people who are in poor health. In my experience of eight years as a member of the County Board of Supervisors, I became aware of the fact that many people in the last stages of consumption came to our county and had to be cared for. Some of them came without friends, and others paid their fare here because they thought they might be benefited. But they came here to die. I want to caution you doctors not to send dying patients out here. It is not right. You should not send patients out here who are in the last stages of tuberculosis unless they have the means to be properly cared for. I speak from experience when I say that. It is cruelty to send people to this climate without means.

We hope to derive a good deal of benefit from the deliberations of this convention. Yesterday it gave me great pleasure to listen to Col. Gorgas, who spoke on the methods he had adopted in Panama. There are a great many other subjects we are interested in besides sanitation. At the present time our people need to be fully instructed not only on sanitary matters, but with respect to the disposal of garbage. The latter is a question which must be taken care of. The city of Los Angeles is not in as good condition from a sanitary point of view as it might be, and we trust our physicians here will listen to the discussions and give the people the benefit of them. It is something that is of vital importance to our city. While our climate is as good as any in the world, we must have the latest methods of sanitation, and we must make provision for the poor who come here. We have got to do it. Dr. Barlow is doing a great work, and I know from my own knowledge that he is doing good work. Many men of wealth can do something to help the poor and the needy.

I want to thank you for your close attention, and I trust that your meetings will result in great benefit to our city and the country at large. (Applause.)

Response by President Welch to the Addresses of Welcome

Ladies and Gentlemen:—In behalf of the members of the American Medical Association, I desire to express our thanks and appreciation of these cordial words of welcome which have been uttered in behalf of the medical profession and of the people of this city and of this state. The American Medical Association, which represents the entire profession of the country, has grown so large that there are relatively few cities in this country which can provide even physical accommodations for our annual session. We find here the most ample provision, not only for the actual needs of the meeting but for all entertainments in the most generous fashion, and it may be regarded as something of an indication of the marvelous growth of this city that it is able to make these remarkable provisions for our comfort and entertainment.

Those who have come here from the East and have never been to the Pacific Coast before have had a wonderful education as to the achievements of our people, as to the powers, and as to the possibilities of this great country in their journeying across the continent. But here in southern California we surely find the climax of this journey. Here in this land, so wonderous in its beauty, so magical in its charm, so interesting in its romantic history, and so remarkable in the energy and in the development of the people and of the country, we are very fortunate in having selected this place for holding our annual session this year, and I am sure that my colleagues who came from the East already feel that the journey has amply repaid them for what they have seen and heard here. It may perhaps be some reward for the toil of those who have labored for the success of this meeting to be assured, and I think I may express at the outset that assurance that we are to have here in Los Angeles at this meeting one of the most memorable and agreeable and successful of all the meetings of the Association in its history. (Applause.)

Dr. H. Bert Ellis, Chairman of the Local Committee of Arrangements, then announced the program of entertainments. [For particulars, see The Journal, May 20, 1911.]

Installation of President Murphy

Dr. Welch, in introducing his successor, said: It is now my pleasure and honor to present to the Association and to this audience one who needs no introduction to any medical audience in the civilized world; one who has brought distinction to American medicine and honor to his country by his valuable contributions to surgery; a leader and an ornament to our profession, President of the American Medical Association, Dr. John B. Murphy. (Applause.)

The First Vice-President, Dr. E. E. Montgomery, Pennsylvaria, then took the chair, and President Murphy delivered his address. [This address appeared in The Journal July 1, 1911.]

The address was referred to the House of Delegates, to the Reference Committee on Reports of Officers.

The Secretary read a communication from Senator Owen. [In the publication of the President's address, this letter is given at the point where it is referred to.]

Dr. J. N. McCormack, Kentucky, moved that a rising vote of thanks be extended to Senator Owen for his able, persistent and courageous attitude and interest in humanity and his efforts to establish a national department of health, and to the President of the United States for his interest and assistance to this end. Motion seconded by several and carried unanimously.

Adjourned.

Medical Economics

CONTRACT PRACTICE

In order to discuss intelligently what is generally known as contract practice, it is necessary first to define what one means by the term, since it is used to designate everything from the employment of a surgeon by a railroad to lodge practice and employment of physicians by burial and aid societies. The term "contract practice" is a misnomer and should not be used, since it conveys the impression that the objectionable feature of this class of work is that it is based on a contract. This is entirely incorrect and misleading since, legally, all medical practice is based on a contract between the physician and the patient, which contract is implied if not specifically expressed. A physician has as much right to enter into a contract as has any other business or professional man. The objection to what is popularly known as contract practice is not that it is based on a contract but that it is based on an unfair contract. There are, in all such arrangements, four parties to be considered: the doctor, the patient, the medical profession and society at large. If none of these parties is injured by the proposed agreement, there is no reason why it should not be entered into. The question, therefore, is not whether a contract exists but whether the contract is fair to all concerned.

There are three questions which should be asked in each case:

1. Is there an economic justification for such an agreement?
2. Is the contract such a one that no one will be harmed thereby?
3. Is it a direct agreement between the physician and the patient or is the physician being exploited for the benefit of a middleman?

In the case of industrial corporations the employment of a competent surgeon, or surgeons, is necessary as a protection against unjust damage suits. Railroad companies, for instance, find it necessary to have employees and others, who are injured on or by their property, examined by a competent surgeon on whose opinion they can rely. If they did not do so, they would be constantly exposed to suits for damages, many of which would be without justification. Such professional services, therefore, come under the same head as fire insurance, for instance, and are really a form of protection. It should be clearly understood, however, that such companies are in no way justified in demanding that the surgeon in their employ shall treat their employees, except in cases of actual injury while on duty, and it should be particularly emphasized that such corporations are entirely unjustified in demanding that their surgeons treat or attend the families of their employees.

Another economic justification is found in the case of industrial establishments so located as to be inaccessible to physicians in private practice. Instances of this are to be found in lumber camps, mines, etc., so situated as to be inaccessible to private practitioners or where the amount of work does not justify a physician in locating near the mine. Here, if the company did not employ a physician and guarantee him a living income, the employees would be deprived of proper medical and surgical attendance. In such cases, if the location of the mine makes ordinary professional competition impossible, the company would be justified in asking the surgeon to attend the members of the employees' families.

These economic conditions, however, do not apply to lodges, fraternities, benevolent and benefit organizations, etc. On the other hand, contracts with physicians who are subject to ordinary professional competition soon become exceedingly harmful, since competition leads to cutting of rates and to a gradually lowering of compensation to a point far below the value of the services, which invariably means that the patient does not receive proper services, as the physician cannot afford to devote the necessary amount of time to each case. The competition, consequently, hurts the physician himself, since it leads him to do poor work; the patient, since he does not receive proper attention; the profession, since the standard of living is lowered, and the public, since a certain number of its members are pauperized.

The fact that the distinction between the different forms of contract practice has been obscured only makes it all the more necessary to consider each case separately. For instance, a railroad is justified in employing a surgeon at a fixed salary to examine and report on all cases of injury among its employees or patrons. This is a simple agreement between a company and an individual for the protection of the property rights of the company. The railroad company, however, is not justified in demanding, neither is the physician justified in agreeing that he should also care for the nonaccidental illnesses of employees or that he furnish professional services for employees' families. There is no justification for a lodge having a physician, except to make life insurance examinations, since furnishing free medical attendance or attendance at a nominal rate to its members is not a legitimate function of a fraternity. There is no excuse whatever for furnishing professional services at a nominal rate to members of benevolent aid societies, since this involves buying the services of the physician at wholesale and selling them at retail to the individual member, thus permitting the promoter or the company to profit and, in fact, to exploit the physician for personal benefit.

If we are to retain the confidence and respect of the public we must think more clearly on economic and sociologic questions than has been the custom in the profession heretofore. If we oppose an arrangement which is not only justifiable but necessary, we will not only fail to accomplish anything but we will injure our influence at the same time. If we submit to an economic wrong, we thereby lose the respect of the public. It is, therefore, necessary for us as a profession to analyze existing social problems and to discriminate carefully and accurately between those relations which are justifiable and those which are not.

Book Notices

Introduction to Practical Organic Chemistry. Including Qualitative and Quantitative Analysis and Preparations. With Special Appendix on the London University Syllabus, and Schemes of Analysis for Stages 1 and 2 of the Board of Education Syllabus. By A. M. Kellas, B.Sc. (Lond.), Ph.D. (Heidelberg), Lecturer on Chemistry at the Middlesex Hospital, 1910. Cloth. Price, $1.35 net. Pp. 204, with 50 illustrations. New York: Oxford University Press, 1910.

This is a companion to "A Manual of Inorganic Chemistry" by the same author; it is intended for the preparation of English medical students for their examinations in organic chemistry. The material is particularly arranged and systematized to enable the student to make a rapid general review of the subject. The contents are divided into six parts, viz.: (1) "Qualitative Analysis of Organic Compounds for Elements;" (2) "General Laboratory Operations;" (3) "Preparations of Typical Organic Compounds;" (4) "Tests and Analysis for Special Compounds;" (5) "Detection of the Group to which an Organic Compound Belongs" and (6) "Quantitative Analysis." While this outlines an amount of chemical knowledge which would constitute several years of special work in our large universities, the book is nevertheless essentially a quiz compend, arranged for quick preparation for examinations. If the graduates of American medical schools were required to have the thorough training in chemistry, which it would appear the English graduates must have, the former would be less apt to become the dupe of manufacturers of fake synthetics and chemical impossibilities.

A Manual of Practical Inorganic Chemistry. Including Preparations and Qualitative and Quantitative Analysis with the Rudiments of Gas Analysis. Specially Adapted to Cover Preliminary and Intermediate University Courses and the First Three Stages of the Syllabus of the Board of Education. By A. M. Kellas, B.Sc. (Lond.), Ph.D. (Heidelberg) Lecturer on Chemistry at the Middlesex Hospital Medical School. Cloth. Price, $1.35. Pp. 347, with 51 illustrations. New York: Oxford University Press, 1910.

This text is similar in nature to the one by the same author above reviewed, differing only in subject-matter and somewhat in scope. It is written and arranged in the same general way, making the material quickly available for rapid review.

The Sources and Modes of Infection. By Charles V. Chapin, M.D., [illegible] of Health, Providence, R. I. First Edition. Cloth. Price, [illegible] net. New York: John Wiley & Sons, 1910.

In this interesting book Dr. Chapin sets forth what is known of the sources and modes of infection in the case of the common, important infectious diseases, and with special reference to practical preventive measures. In Chapter 1 he reviews the evidence of growth of disease germs outside the body, reaching the general conclusion that in temperate climates this does not occur to such extent as to play an important part in causing disease. The second chapter is devoted to carriers and missed cases, the great importance of which, in spreading infectious diseases, is brought out clearly and forcibly. "Any scheme of prevention which fails to take into account carriers and missed cases is doomed to partial and perhaps complete failure." Chapter 3 deals with the limitations to the value of isolation and whether one agrees with all the statements or not, there is much here especially for health officers holding strictly to traditional methods to think about. Chapters 4, 5, 6, 7 and 8 discuss infection by contact, by fomites, by air, by food and drink, and by insects, respectively. Contact is held to be the principal way by which many infectious diseases are spread, while fomites infection is claimed to be of very much smaller importance than formerly and in many places at present believed. Dr. Chapin's views in regard to the value—or uselessness rather—of terminal disinfection are well known and they are restated without any essential modifications. Health officers, physicians and all who are interested in questions of hygiene and sanitation will find this a suggestive and valuable book. Its chief value lies in the fact that an earnest and thorough effort is made to point out the relative importance of different factors in spreading infectious diseases and to indicate on the basis of what we know the directions in which our preventive measures must be modified and developed.

The Effects of a Number of Derivatives of Cholin and Analogous Compounds on the Blood-Pressure. By Reid Hunt and R. de M. Taveau. Hyg. Lab. Bull. 73. U. S. P. H. and M.-H. S., Treasury Department, March, 1911. Paper. Pp. 135. Washington: Government Printing Office, 1911

Hunt and Taveau present a series of systematic studies on the physiologic action of the derivatives of cholin. Cholin occurs in various tissues of the animal body including the adrenals, and in certain vegetable preparations such as ergot. It exerts a depressor effect on blood-pressure. Some of the derivatives of cholin are extremely active in lowering blood-pressure. Thus acetyl-cholin is 100,000 times as active as cholin, and but three times as toxic. It is several hundred times as effective as nitroglycerin, and counteracts a dose of epinephrin several hundred times as large. The authors discuss this preparation and action of a number of other similar derivatives of cholin, and point out the great therapeutic possibilities in this group of substances.

Report of the Massachusetts Commission to Investigate the Question of the Increase of Criminals, Mental Defectives, Epileptics and Degenerates. January, 1911. Paper. Pp. 50.

This report, presented to the Massachusetts legislature by a commission of five appointed by the governor to investigate the subject, contains a large amount of data regarding criminals and degenerates in Massachusetts, including tabulations from 1890 to 1909. Analysis of the prison reports for Massachusetts shows that, contrary to popular impression, crime has diminished since 1890, the number of arrests for crimes against the person in 1890 being 3.44 per thousand, and the average during the period of 1905 to 1909 only 2.92. Commitments to prison for crimes against the person in the period from 1890 to 1894 were 0.832 per 1,000 of population, and in the period 1905 to 1909 they were 0.499 per 1,000. Commitments for crimes against property have diminished from 1.21 in 1890 to 1.05 in 1909; crimes against public order from 1.63 in 1890 to 1.25 in 1909; the total number of commitments for all crimes having diminished from 10.47 per 1,000 of population in 1890 to 9.25 per 1,000 in 1909. Criminal prosecutions and juvenile crime are also tabulated. Data regarding the insane show an increase from 2.168 per 1,000 in 1890 to 3,379 in 1909. The increase in admissions to insti-

Die Hernien und ihre Behandlung. Von O. Borchgrevink, Oberarzt des Diakonenhospitals in Christiana. Paper. Price, 5 marks. Pp. 311, with 40 illustrations. Jena: Gustav Fischer, 1911.

This is a small volume of 300 pages with 40 illustrations. Many of the latter are not up to the present-day standard. The major portion of the work is stereotyped and presents nothing new; in fact, it omits many of the modern ideas concerning the origin of hernia. The best chapters are those which deal with the statistics of strangulated hernia and with the treatment of this complication. Here the author is at his best and gives some excellent advice. A short appendix on hernia and accident insurance closes the volume.

tutions for feeble-minded and epileptic runs from 0.295 per 1,000 in 1890 to 0.651 in 1909. The commission is of the opinion that this marked increase is more apparent than actual, as many persons are now committed to public institutions who were formerly cared for at home. Tabulations regarding pauperism, based on the admissions to poorhouses and relief furnished by county boards, show that, in 1890, 25.28 persons per 1,000 were so relieved. In the period of 1895 to 1899, however, the ratio increased to 31.97. The report concludes with twenty recommendations, summarizing the findings of the commission, which include measures for the prevention of the birth of defectives and degenerates by an extension of custodial care; for the restriction of immigration; for the exercise of more discrimination in the treatment of first offenders and habitual criminals; for further study of the causes and prevention of juvenile crime; for the enactment and enforcement of stringent laws regarding firearms; and for further research in state institutions as to causes of various types of degeneracy and mental disease.

Feeble-Mindedness in Children of School Age. By C. Paget Lapage, M.D., M.R.C.P., Lecturer in School Hygiene to the Manchester University. With an Appendix on Treatment and Training, by Mary Dendy, M.A. Cloth. Price, $1.60 net. Pp. 359, with Illustrations. New York: Longmans, Green & Co., 1911.

This book is Number XIII of the medical series of the University of Manchester publications and is written to emphasize the importance of the subject of mental deficiency, to show the prominent place that proper care of feeble-minded persons should take in measures for the public welfare, and to demonstrate the fact that feeble-mindedness is an inherited trait and is capable of being transmitted with growing frequency to future generations. The report of the Royal Commission on the Care and Control of the Feeble-Minded, published in 1908, has stimulated interest in this question in Great Britain. The book is intended for school medical officers, teachers, social workers and others who have to deal with feeble-minded children, and contains chapters on the physical and mental characteristics of such children, their defects of speech, special types of feeble-mindedness, methods of diagnosis, treatment and care and a discussion of the inherited and acquired causes of this condition. A comprehensive bibliography and an exhaustive index are added. The book is well printed and copiously illustrated, and is a valuable addition to the literature of the subject.

Prevention of Infectious Diseases. By Alvah H. Doty, M.D., Health Officer of the Port of New York. Cloth. Price, $2.50. Pp. 281. New York: D. Appleton & Co., 1911.

Dr. Doty's extensive experience as health officer at the port of New York peculiarly fits him for the preparation of this book. In the preface, he states that it has been his aim to "deal with the subject from a practical standpoint and to present the latest knowledge relative to the transmission of infectious diseases and the means by which they may be prevented." Small-pox, yellow fever, typhus fever, cholera and bubonic plague are considered, as well as disinfection, disinfectants and the rôle of insects in the transmission of infectious diseases. A chapter on the thermometer discusses the importance of careful temperature observations in the examination of suspects as well as the method employed at the New York Quarantine Station. This book is of special interest in that it is based largely on the personal experience of the writer.

1910 Blue Book of Surgery. Technic of the Surgical Clinic, Anesthesia and Anesthetics, Preoperative and Postoperative Care of the Patient, and Diagnosis and Treatment of Some of the Most Important and Frequent Surgical Diseases. Compiled for the Interns, Students and Nurses of the College of Medicine and Surgery, University of the Philippines, and the Philippine General Hospital. Under the Direction of John R. McDill, M.D., Professor of Surgery, College of Medicine and Surgery, Univ. of the Philippines. By Hans E. Schiffbauer, M.D., Instructor in Surgery, College of Medicine and Surgery, Univ. of the Philippines. (Published in part in the Bulletin of the Manila Medical Society.) Cloth. Pp. 66.

So far as we are aware, this is the first instance of a manual of surgery being issued in the form of a government bluebook. It has been prepared by Dr. McDill, professor of surgery of the College of Medicine and Surgery of the University of the Philippines, for the use of interns, students and nurses, and is the successor of two small pamphlets, one on anesthesia and one on technic, which appeared last year. Surgical and clinical technic, anesthesia, preparation of patients, postoperative care and the treatment of emergencies are discussed in separate chapters. The surgical conditions considered are appendicitis, peritonitis, surgical diseases of the stomach, tetanus, hernia and tubercular adenitis. An evidence of the widening of the scope of governmental scientific work is found in the notice from the bureau of printing which accompanies the book, stating that the bureau is experimenting with book coverings in search of a material immune from the attacks of insects, and asking for reports as to the durability of the binding of this volume. Dr. McDill's manual, while limited to sixty-six pages, is concise and comprehensive and should prove of value in the instruction of students, interns and others. The chapter on differential diagnosis of gastric disturbances is by Dr. Graham of Rochester, Minn.

The Principles and Practice of Dermatology. Designed for Students and Practitioners. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois. Second Edition. Cloth. Price, $6. Pp. 1079, with 356 Illustrations. New York: D. Appleton & Co., 1911.

The author in this revision of his admirable book has found it necessary to add a number of new titles, among them being "Gangosa," "Sporotrichosis," "Brown-Tail Moth Dermatitis," "Dermatitis from Straw-Mites," "Cestode Larva in the Skin," "Paraffinoma" (an affection following the injection of paraffin for cosmetic purposes), and some others. In the article on syphilis several pages are devoted to salvarsan, which name the author does not use, still calling it "606." These pages are simply interpolated without explanation or apology, as if by afterthought, and are not connected with the rest of the text; in fact, they are inserted between pages 584 and 585, and divide a sentence on the treatment of syphilis. Nor do they correctly represent the latest opinions on dose or method of administration. Neither the drug nor the method of treatment is mentioned in the index. The section on radium and the author's method of treating skin lesions with solid carbon dioxid have been expanded. Otherwise few changes have been made.

Hand-Book of the Surgery of the Kidneys. By W. Bruce Clarke, M.A., M.B. (Oxon.), F.R.C.S., Senior Surgeon to St. Bartholomew's Hospital. Cloth. Price, $4 net. Pp. 199, with 50 illustrations. New York: Oxford University Press, 1911.

This is a good example of a custom which is more prevalent in England than in this country: the publication of personal experiences in the form of monographs. The description of each of the principal surgical diseases of the kidney is very concise and fairly thorough. The entire book reads like a clinical lecture, the personal element being prominent throughout. It is one of few modern books on renal surgery to mention the importance of an accessory renal artery to the upper pole of the kidney. Attention has been directed recently in this country by several writers to the possibility of severe hemorrhage occurring either during or after operations on the kidney from such an accessory vessel. The greater portion of the chapter on examination is devoted to the differential diagnosis of renal from other abdominal tumors. This is rather to be deplored, as there are many other surgical conditions of the kidney than those which give rise to tumor formation. A Luys separator, such as that shown on page 30, would seem to us to be superfluous in the present state of development of cystoscopy and ureteral catheterization, since the use of the separator has been practically discarded by the majority of workers in this field. No mention is made of the use of indigo-carmin as a means of testing the functional capacity of the kidney. The reference on page 41 to removal of a portion of the kidney for tuberculosis is unfortunate, as this method of operation has long been considered obsolete. The book is one of few which urge a search for the presence of stones in both kidneys. Under "injuries of the kidneys" an excellent description of the pathology and symptoms is followed by a one-sided view of treatment; reference is made to the operative treatment only. There are but few illustrations, the majority being taken from the St. Bartholomew's Hospital Museum.

Society Proceedings

COMING MEETINGS

American Ophthalmological Society, New London, Conn., July 11.
Oregon State Medical Association, Los Angeles, Cal., July 10.

AMERICAN SOCIETY FOR ADVANCEMENT OF CLINICAL INVESTIGATION

Third Annual Meeting, held at Atlantic City, May 8, 1911

The President, Dr. Joseph H. Pratt, of Boston, in the Chair

The officers elected were named in The Journal, May 27, 1911, page 1584.

Further Studies on the Internal Secretion of the Pancreas

Drs. Joseph H. Pratt, Fred T. Murphy and Lesley H. Spooner, Boston: In a dog, nine months after the pancreas was separated from the duodenum, total sclerosis of the gland was found at autopsy. The site of the pancreas was occupied by a thick-walled duct, the epithelium of which had proliferated. In the wall of connective tissue were no acini or islands of Langerhans, but here and there were a few epithelial cells. Although the tolerance for carbohydrates was greatly reduced in this dog it did not develop diabetes. At the operation a triangular portion of pancreas measuring 1 cm. on each side was left connected with the duodenum and surrounding a large pancreatic duct. At autopsy this part of the gland also was found completely atrophied. Trypsin was demonstrated in the duodenum and also in the dilated pancreatic duct. This as well as other observations show that a minute amount of sclerosed and atrophied pancreatic tissue is sufficient to prevent the development of diabetes.

A dog has been kept alive two and a half years after separating the pancreas from the duodenum and it has never developed diabetes. The intestinal contents of this animal do not contain trypsin. This dog's tolerance for glucose could be raised to the normal by feeding fresh pancreas either of the sheep or pig. It remained at the normal level for over a month after pancreas was withdrawn from the diet, and then slowly fell to a low point. This was a female dog and she was a puppy when atrophy of the pancreas was induced by separating the pancreas from the duodenum. She has never menstruated and there has been an arrest of mental development, so that she still behaves like a puppy although now three years old.

Bits of the pancreas were transplanted into the spleen. Dogs and cats were used in these experiments. Most of the grafts disappeared in a few days, but well preserved acini surrounded by granulation tissue were found after thirteen days. A graft of pancreas connected with a mesenteric stalk was placed in the spleen. Later the remainder of the pancreas was extirpated and the mesenteric vessels running to the graft in the spleen were cut. The dog did not develop diabetes. In fact its tolerance was higher than in animals in which atrophy of the pancreas was produced.

Some Experiments to Determine the Nature of the Toxemia in Acute Pancreatitis

Drs. John Speese, R. G. Torrey and Joseph Sailer, Philadelphia: In 1908 we reported investigations which showed that after the experimental production of acute pancreatitis the blood-serum becomes intensely toxic to guinea-pigs and dogs, the only animals on which it was tested. This toxemia had already been noted by Guleke and Von Bergmann, by Doberauer and inferred by Hildebrand and Williams, who were unable to find bacterial infection in certain cases of acute clinical and experimental pancreatitis. Guleke and von Bergmann believed that the symptoms were due to the absorption of trypsin.

Our results are as follows: Dogs were operated on in the usual way, that is the abdomen and the duodenum are opened and about 20 c.c. of oil injected into the duct of Wirsung. In from six to ten hours, if the injection is successful, the animals are moribund. They are then bled to death, the serum collected and tested in various ways. It is to be noted that the blood in these cases is usually of a chocolate-brown color. We have not yet endeavored to determine the cause of this change. The clot is soft and the serum is always deeply colored. The toxicity of the blood was tested in guinea-pigs in the manner described in our previous paper. Incidentally Dr. Rehfuss discovered ulceration of the gastric mucous membrane in all respects similar to that observed by him and Dr. Loeb in various experimental intoxications.

Our methods for detecting trypsin were as follows:

Blood-serum was diluted with an equal amount of one-fifth normal sodium carbonate solution and a small amount of chloroform-water added. This was digested for twenty-four hours. It was then tested for the amount of uncoagulable proteid by the Kjeldahl and the Volhard methods. There was no difference between the digested specimens and the controls. As nearly as could be judged there was no difference in the intensity of the biuret reaction. Other portions of the blood-serum were then mixed with equal parts of a saturated solution of ammonium sulphate and the filtrate tested for trypsin as before. There was no evidence of any digestive effect. The blood-serum was then mixed with varied proportions of an arbitrary solution of starch, incubated and tested with Fehling's solution for the presence of glucose, but the Fehling solution was not reduced. All these tests were repeated with commercial preparations of pancreas and were positive. As we could not find any evidence of a fat-splitting ferment in the commercial preparations of the pancreas we did not attempt to find it in the blood-serum.

The results are therefore negative. This may be due to the absence of either the proteolytic or the amylolytic ferments in the blood-serum or to faulty methods or to faulty technic. Negative results are always inconclusive because a single positive result will destroy their significance, but we feel justified in saying that at the present time there is no reason to believe that the toxemia of acute pancreatitis is caused by the absorption of any of the external secretions of the pancreas.

Some Observations on a Pancreatic Cyst

Dr. Henry A. Christian, Boston: In a man, aged 42, fourteen months before admission to the hospital swelling of the legs began, followed two months later by the development of ascites. During a period of two months the abdominal fluid was withdrawn three times, and after the third tapping did not reappear. Soon after the third tapping, about ten months before admission to the hospital a gnawing pain appeared in the upper abdomen with occasional sharp paroxysms. Four months before admission a large lump appeared in the upper abdomen to disappear after a month and a half. Five weeks before coming in this lump reappeared and continued to be present. There was a large bulging tumor extending from beneath the ribs to an inch and a half above the umbilicus, elastic, smooth, moving slightly with respiration, apparently a cyst, crowding the stomach up and the transverse colon down. At operation this was found filled with a slightly viscid fluid, dark brown in color, containing changed blood. The wall of the cyst showed granulation tissue and no epithelium. The fluid withdrawn from the cyst was slightly alkaline and did not reduce Fehling's solution. It failed to give a trypsin reaction and did not digest coagulated egg albumen at body temperature, either as it came from the cyst or after the addition of scrapings from the duodenum. In the incubator at body temperature at the end of twenty-four hours it had acquired the power of reducing Fehling's solution, and previous boiling did not prevent this reducing substance from appearing. Kept at a temperature, however, of 60 C., no such reducing substance appeared, and preservation in the ice box for one month did not result in its appearance. The reducing substance so produced was fermented by yeast with the production of gas.

The Production of Glycosuria with Extracts of the Hypophysis

Dr. Joseph L. Miller, Chicago: The work on this subject has been more or less conflicting. Borchardt has obtained positive results when using rabbits and in a few cases with dogs. Franchini, working with rabbits, was only able to produce a glycosuria in two instances and where extensive ulceration of the bowel was present, sufficient he thinks to account for the glycosuria. Pal also reports that he was unable to produce a glycosuria by this means. I have worked with extracts made from dried ox hypophysis. Extracts were made from both anterior and posterior lobes. Reducing substances, not sugar, are frequently found in dog's urine. In addition to Fehling's test, the polariscope and fermentation tests were employed. Ten animals received intraperitoneally and intravenously extracts of the anterior lobe. Only two showed a glycosuria, one 0.48 per cent. and the other 5 per cent. Nine animals received extracts of the entire posterior lobe. Only one gave glycosuria 0.5 per cent. Further experiments are necessary before we can arrive at a definite conclusion either as to the rôle played by the hypophysis in glycosuria, or the portions of the hypophysis responsible for it.

The Presence of Dextrose in the Exudate of Pulmonary Edema

Drs. I. S. Kleiner and S. J. Meltzer, New York City: An injection of epinephrin causes in animals, as it is now well known, hyperglycemia and glycosuria. It is further known that some rabbits die after an injection of epinephrin from pulmonary edema. An examination of the exudate in these cases revealed the presence of dextrose. In order to be able to study the subject at will the rabbits were made to inhale ammonia through a tracheal cannula. Without exception the animals died in a few minutes from pulmonary edema. A systematic study established, in the first place, the following fact: Exudates of pulmonary edema of animals which received adrenalin contain dextrose, no matter whether the pulmonary edema came on spontaneously or was brought on by ammonia. The amount of the dextrose in the exudate was in most cases larger than in the hyperglycemic blood. It was found furthermore that, even without the injection of adrenalin, exudates from pulmonary edema (brought on by the inhalation of ammonia) contained dextrose far above that belonging to normal glycemia. It was established further that the blood of the animal thus dying from pulmonary edema was definitely hyperglycemic. The explanation offered for the last-mentioned phenomenon is that animals which die of pulmonary edema are, of course, asphyxiated and it is the asphyxia which causes the hyperglycemia and the exudation of dextrose. The quantitative relations will be dealt with at a later date.

Orthodiascopic Observations Concerning a Certain Type of Small Heart and Its Relations to Some General Systemic Affections

Drs. I. Adler and O. F. Krehbiel, New York City: We have found by numerous orthodiascopic observations and measurements that a certain form of small heart is regularly associated with a typical clinical picture. There is commonly present gastric hyperacidity and flatulence and abdominal distension. Clinical and microscopic study of the stomach contents after test-meals and of the feces fails to find any anatomical lesion. They are neurotic phenomena. At the same time, there are in the great majority of cases psychic symptoms; above all, a tendency to mental depression, and frequently hypochondria. The heart itself is smaller than the minimum normal for corresponding size and weight, especially in the transverse diameter. The aorta may be abnormally narrow or not. The blood-pressure is, as a rule, somewhat low, but not necessarily so. There is no evidence of any muscular disease of the heart.

After years of observation, secondary symptoms, due to insufficiency of the heart, have never been found. The heart is simply small, and remains small. There are many clinical cases which correspond exactly to the type mentioned, without the small heart; but in all of these cases it must be noticed that they have been acquired. The type that we here record is always congenital and may be found in comparatively young children. The cases we mention have absolutely no hysterical symptoms. It is our belief that this form of microcardia associated with the symptoms sketched is probably a clinical entity; but it is not our opinion that the small heart is a causative factor. With Kraus, we do not look on the small heart as a hypoplasia or a separate disturbance of cardiac growth, but rather as one of many other deviations from the normal.

The Relation of Arteriosclerosis to Acute Infectious Diseases

Dr. Channing Frothingham, Jr., Boston: Do the toxins of acute infectious diseases produce any lesion in the arterial system? If so what relation does this lesion bear to the arteriosclerosis of old age? We know from the literature that in cases of acute infection diffuse aortic lesions exist. Are these lesions due to the infective agent or its toxins? After injecting bacterial toxins in rabbits arterial lesions have been found. Human tissue taken at random from the aorta, spleen and kidney was studied for arterial lesions. In practically all cases of persons above 30 years, whether acute or not, the same lesion existed. In the renal arteries there were fat droplets in the muscle fibers and occasionally an increase in connective tissue in some layer. In the spleen, besides fat droplets in the media there was a peculiar hyaline-like degeneration involving one or all the layers. The aorta showed an irregular thickening of the intima with fat present. In the media fat droplets were in the muscle fibers, and also fat was in the intima in spots with no thickening. Next, cases in persons younger than 25 were studied. No different lesion was found, but in many, whether an acute infectious case or not, one or more of the above-described lesions existed. Fat droplets in the muscle of the renal arteries occurred in all the cases above 2 years of age of typhoid fever, tuberculosis and pneumonia. The splenic arteries showed the hyaline change in all cases of tuberculosis, pneumonia and diphtheria above two years of age and in over 50 per cent. of septicemia cases. The aortic lesions were present in cases over 2 years in all those of tuberculosis, typhoid fever, and pneumonia and in the majority of diphtheria and septic cases. One case of glanders showed marked lesions in all three tissues. The fact that all cases under two years showed no lesions argues against their being due to toxins. The peculiar lesions in the splenic arteries and the thickened intima of the aorta must leave on healing a permanent sclerosis, which may or may not have some relation to the arteriosclerosis of old age. Attempts to produce a general lesion in guinea-pigs by injection of bacterial vaccines were unsuccessful.

Remarks on Nephritis

Dr. Martin H. Fischer, Cincinnati: The underlying cause of every nephritis is an abnormal production or accumulation of acid in the kidney, and this one factor acting on the different colloids of which the kidney is composed produces all the changes characteristic of nephritis. The proof for such a contention resides in the facts (1) that evidence of an abnormal acid production may be found in any case showing the signs and symptoms of a nephritis, (2) that any method which leads to an abornmal production or accumulation of acid in the kidney is followed by the signs of nephritis, and (3) that any method by which we can counteract the effects of acid on the colloidal kidney structures constitutes a means of relieving the signs and symptoms of nephritis.

The swelling of the kidney in nephritis represents an increased absorption of water by the colloidal proteins of the kidney (edema), produced under the influence of an acid, and analogous to the increased absorption of water by fibrin or gelatin when an acid is added to these. The grayness of the kidney (clouding) is due to a precipitation of another colloid, analogous in its behavior to that of casein, within the cells of the kidney. The two together constitute "cloudy swelling." Casts are produced because when an acid is introduced into the kidney, the kidney falls apart in such a way as to permit the epithelial cells to stick together, while they loosen in mass from their basement membrane This marks the origin of the epithelial cast. Granular or hyaline casts are successively produced from the epithelial at will, if the acid is allowed to act for longer periods of time, or in greater concentration. A hyaline cast can be reconverted into a granular one by neutralizing the acid, or adding various salts. The disturbances in water secretion in nephritis are due to the effect of the acid in interfering with the normal production and loss of carbon dioxid in the parenchyma cells of the kidney, on which normal secretion depends. Reduction in the absolute quantities of dissolved substances secreted by the nephritic kidney is secondary to the decrease in the absolute amount of water secreted. Changes in the proportion to each other of the dissolved substances secreted as compared with the proportion that these bear to each other in normal urine, are dependent on the effect of the acid in changing the adsorption properties of the kidney colloids.

The general rule to observe in the treatment of nephritis is to avoid all conditions which favor an abnormal accumulation or production of acid in the kidney—hence diets rich in alkalies and low in acids are indicated. The giving of water is not to be restricted, but to be encouraged, for the kidney cannot make water out of nothing, and plenty of water dilutes the toxic substances (including the acid) which are responsible for the injury to the kidney. The only danger of giving water resides in washing out salts and so favoring the action of acid in bringing about those deleterious effects on the kidney which are characteristic of nephritis. This danger is to be avoided, and can be, by giving salts, including sodium chlorid. Sodium chlorid restriction is not only not good but thoroughly bad. Experimental observations on animals show how the most intense grades of nephritis may be relieved by giving salts (concentrated sodium chlorid or concentrated Ringer solution) and alkalies (sodium carbonate). Such methods also lead to the disappearance of the generalized edema. Cases of nephritis with complete suppression of urine for several days were studied by Drs. James J. Hogan (Vallejo, Cal.) and Kennon Dunham (Cincinnati) in which relief of all symptoms and disappearance of all signs occurred after giving strong aqueous sodium carbonate-sodium chlorid injections per rectum.

All nephritides showing clinical symptoms are parenchymatous nephritides. Chronic interstitial nephritis without albumin or casts is not primarily a nephritis, but an atrophy of the kidney, and must be treated from this point of view. In this disease there is no evidence of an abnormal acid content in the kidney, and so also no decrease in urinary output. Primarily this is a vascular disease and the atrophy of the kidney and the hypertrophy of the heart are secondary to this. When the chronic interstitial nephritic shows albumin and casts then he also shows evidence of abnormal acid production in the kidneys, fails to secrete a normal amount of urine and develops an edema. At the same time his kidneys show the evidences of a parenchymatous nephritis added to his so-called chronic interstitial nephritis.

The Influence of the Administration of Potassium Salts on the Elimination of Chlorids in the Urine

Dr. R. S. Lavenson, *Philadelphia*: The administration of potassium salts causes an increased elimination of chlorids in the urine. The administration of 3 drams of potassium acetate daily for a period of two or three days, to a normal individual, increased the elimination of chlorids in the urine from 6 to 9 grams. Potassium nitrate administered in relatively slightly smaller quantities was attended by a slighter increase in the chlorid elimination. In subjects without edema, there is usually a compensatory chlorid retention after the administration of potassium is stopped. Sodium acetate did not cause any increased elimination of chlorids. It appeared that the amounts of chlorids eliminated have a direct relationship to the amount of potassium administered. This effect of potassium salts is of direct therapeutic value in connection with non-nephritic edemas, but it is doubtful if it is of any value in the treatment of edema resulting from nephritis.

The Leukocytic Enzymes in Leukemia in Neutral Media

Drs. R. S. Morris and T. R. Boggs, *Baltimore*: We made a study of the enzymes of the leukocytes in neutral media in two cases of acute myeloid leukemia, two of chronic myeloid and two of chronic lymphoid leukemia and pus from an empyema. Before testing, the cells were washed with physiologic salt solution to remove the blood-plasma. In all instances the following enzymes were found: protease, amylase, maltase and lipase. Invertase, lactase, and a glycolytic ferment were not demonstrable. It thus appears that in neutral media, so far as examined, no biologic differences were found between the cells of the myeloid and the lymphoid series.

Vital Staining of "Stipple Cells" in Malarial Blood

Dr. Thomas R. Boggs, *Baltimore*: Looseness in terminology and inaccuracy of description have led to confusion of two distinct types of granulation in the red blood-cells in malarial fever. These are: (1) The basophilic granulation of Plehn which is none other than the well-known Grawitz granulation seen in many anemic conditions. (2) The second type is the so-called Schüffner's, or Mannaberg's granulation which is weakly basophilic or amphophilic, and is found only in the infected cells, while the Plehn, or Grawitz granules, are found in uninfected cells only. We have observed several cases of malarial fever in which the anemia was marked and both types of granulation occurred simultaneously. In these cases studies were made of the unfixed blood with a large number of dyes. Very fine particles of the dyes were allowed to dissolve in the plasma of the unfixed fresh smears and their selective action on the two types of granulation observed. In brief, it may be said that the Grawitz, or Plehn, granules in the uninfected cells stained strongly with most of the basic dyes, while the Schüffner granules showed a weaker staining, being unstained with methylene-blue, faintly stained with crystal-violet, methyl-violet and azur I, and brilliantly stained with safranin. This latter stain (safranin) did not stain the Grawitz or Plehn granules at all. Lastly, the Schüffner granulation (which is limited to those cells containing parasites) was always peripheral in arrangement, suggesting a change in the envelope of the red cell, while the basophilic Grawitz granules were scattered and often central in position.

The Etiology of Actinomycosis

Dr. Frederick T. Lord, *Boston*: Actinomycosis involves the head and neck in somewhat more than one-half of the cases. In a considerable proportion of those with the disease in this region its point of origin can be traced to the tissues in or about the buccal and pharyngeal cavities. When the disease involves the maxillary region, trouble with the teeth often precedes the onset of the affection and if an operation is performed, a sinus may be traced to the root canal of a carious tooth. The disease involves the thorax and the abdomen in about 40 per cent. of the cases, each of these regions being affected in about 20 per cent. The initial lesion in such instances is usually either in the lung or the gastro-intestinal tract. Here too the buccal cavity may be regarded as the probable source of the infection, invasion taking place from organisms which have been inhaled or swallowed. Organisms resembling actinomycetes in morphology and staining reaction can be demonstrated in the contents of carious teeth and in the yellowish, hard or soft masses in the tonsillar crypts of patients without actinomycosis. The intraperitoneal inoculation of guinea-pigs with the contents of carious teeth and the crypts of the tonsils gives rise to omental tumors histologically identical with actinomycotic tissue and containing typical club-bearing actinomyces granules. Similar lesions have been produced in animals inoculated with scrapings from sound teeth. The inoculation of material scraped from coated tongues has given inconclusive results.

To completely establish the identity of these organisms and their relation with actinomycosis, pure cultures should be obtained. With such cultures, it should be possible to produce in animals lesions like those obtained with pure cultures of actinomycetes obtained from human or bovine actinomycosis. Attempts to accomplish this by various means have thus far failed. The isolation of the organism from material obtained from the teeth and the tonsils and from the experimental lesions in animals is rendered especially difficult by the abundance of the contaminating bacteria. From these considerations, until proof is offered to the contrary, actinomycosis may be regarded as arising from organisms harbored in and about the teeth and in the crypts of the tonsils.

Practical Tables of Food Values

Dr. Edwin A. Locke, Boston: The tables represent an attempt to simplify the methods of calculating the weights of the various nutritive constituents and the fuel values of the common American foods and beverages. So far as possible they have been arranged to obviate the actual weighing of foods and of tedious calculations which are necessary when the ordinary tables of chemical analyses are employed. Furthermore for the foods which are ordinarily served cooked, the values are given for them as prepared for the table. In the case of made dishes, however, so many factors combine to make the composition variable that the values chosen can be considered only approximate. No original analyses have been made but all calculations are based on actual weighings. The average helping has been uniformly chosen as the basis of the determinations, and in order that the size of the portion may be more definite, the actual quantity in common measure and the exact weight in grams are also given. The number of grams of water, protein, carbohydrates and fat in the average helping is stated, as well as the fuel value in calories represented by each. The last two columns of the tables include the total calories as well as the number of calories per 100 grams.

From these tables one is enabled to calculate by simple addition the total protein, carbohydrates and fat ingested at a single meal or during the twenty-four hours, or to make direct comparisons of different articles of food according to the calories represented by each ingredient. When food is taken in amounts other than the average helping, its value can be reckoned from its weight and the value for 100 grams given in the last column.

Observations on Venous Blood-Pressure Under the Influence of Certain Drugs

Dr. J. A. Capps, Chicago: The importance of the venous blood-pressure has been overshadowed by the interest in arterial pressure. The study of venous pressure has been further limited by the lack of simple, accurate apparatus. A series of animal experiments were undertaken by the method of Morawitz and Tabora. Of the cardiovascular drugs which raise arterial pressure, caffein, digitalin and strophanthin produced no change in venous pressure, epinephrin in large doses induced a rise in venous pressure, nitroglycerin, amyl nitrate and large doses of morphin set up a fall in venous, as well as in arterial, pressure. Alcohol in toxic doses on the other hand is followed by a rise in venous and a fall in arterial pressure.

A Clinical Cause of Hypotonia and Hypothermia

Dr. Haven Emerson, New York: A man with an entirely negative previous history and in apparently perfect physical condition, fell, during an attack of vertigo, and fractured the fifth and sixth cervical vertebræ. In addition to the clinical findings of a complete sensory and motor paralysis below the level indicated, the diaphragm action being unimpaired, there was a persistent low temperature and a low general blood-pressure. The rectal temperature fell from 97.8 F. on the first day to 96.2 F. on the second day and then remained at 90 F. or a little above or below for the remaining four days of life. The systolic blood-pressure remained at 88-90 Hg from the second day until the patient died three days later. These two observations agree with findings reported in experimental transverse section of the cord in rabbits and dogs. The clinical observation here reported has not been made before, I believe, and may be found if looked for where the functional lesion is high enough and complete enough to sever the greater part of the vascular system from control of the vasomotor and heat regulating centers in the medulla. It is to be expected that in such a case the coincident occurrence of infectious and usually febrile processes in the body might be overlooked owing to the failure of a rise of temperature.

AMERICAN PEDIATRIC SOCIETY

Twenty-Third Annual Meeting, held at Lake Mohonk, N. Y., May 31-June 2, 1911

The President, Dr. Henry D. Chapin, New York City, in the Chair

A list of the officers elected was given in The Journal, July 1, 1911.

The Fundamental Principles of Pediatrics

The address by the president, Dr. Chapin, will be published in full in The Journal.

The Therapeutic Utility of Diphtheria Antitoxin

Dr. Augustus Caille, New York City: The discovery of diphtheria antitoxin has revolutionized the treatment of diphtheria. The only reason for the present-day mortality is that the great divergence of clinical manifestations of diphtheria is not sufficiently recognized and the public is not sufficiently educated along these lines. Experienced physicians know that it is impossible to distinguish clinically between tonsillitis and diphtheria, and that it is useless to wait for the laboratory report. A running nose, usually one-sided, a thin blood-colored greenish discharge, an excoriated upper lip, a croupy cough with stridulous breathing, and finally cyanosis, are suggestive of the disease. It is not generally appreciated that certain forms of bronchopneumonia and pleuropneumonia can be favorably influenced by diphtheria antitoxin. Whenever a primary or secondary bronchopneumonia is suspected to be associated with diphtheria, antitoxin should be administered freely. Whooping-cough might be complicated by a visible throat diphtheria, and antitoxin is indicated as soon as the slightest throat or nose exudate is in evidence. In the event of a croupy cough in pertussis the prompt administration of antitoxin is life-saving, inasmuch as it makes intubation unnecessary. Immunizing injections should only be made with the serum other than that which comes from a horse. The scope and application of diphtheria antitoxin should be widened. I advocate a scratch test to detect hypersusceptibility. An animal serum other than that from a horse is needed, or an antitoxin not associated with albumin to avoid anaphylactic shock.

DISCUSSION

Dr. E. E. Graham, Philadelphia: In the Memorial Hospital for Crippled Children it has been the practice for a long while to give immunizing doses of antitoxin, and over a long period of years no injurious effects have been observed. In the Municipal Hospital in Philadelphia, also, they have not seen evidence of anaphylaxis, except of a very mild degree. It is very important to decide definitely whether or not there is any real danger from anaphylaxis and just how great the danger is, before influencing physicians against its use.

Dr. G. R. Pisek, New York City: As to the scratch test, very minute quantities of the protein will cause anaphylactic shock, and it would be almost impossible not to introduce even with a scratch enough to produce this condition. At the present time we should use antitoxin only in suspected cases, and not unless there is definite reason for it.

Dr. J. Mason Knox, Baltimore: I doubt very much whether, if it were found that the patient was susceptible to the skin reaction, it would be a definite indication that he would be susceptible to a subsequent injection of horse serum.

Dr. Matthias Nicoll, New York City: It would be a great mistake to allow the idea of a possible anaphylaxis to interfere with our use of antitoxin as a preventive.

Dr. C. G. Kerley, New York City: In the Nursery and Child's Hospital some of the children have had three or four repeated injections and no anaphylaxis has been observed.

Dr. John Ruhräh, Baltimore: It would be a great mistake to lay too much stress on this idea of anaphylaxis, as many physicians might be afraid to use immunizing doses.

The Value of Pertussis Vaccine in the Treatment of Whooping-Cough

Dr. Edwin E. Graham, Philadelphia: My earliest cases received only 20,000,000 bacteria for four days; this dose failed to produce any untoward symptoms, and was increased accordingly to 40,000,000 bacteria every four days. Careful study of these cases tended to show that the disease was modified by treatment. The same dose was then given every three days, and beneficial results seemed to be definite. Then 40,000,000 bacteria were given every two days. In not a single instance was there evidence of any local inflammation. I believe that the dose should be increased beyond 40,000,000, especially in severe cases.

SYMPOSIUM ON POLIOMYELITIS

The Extent and Distribution of Poliomyelitis in the United States and Canada

Dr. Robert W. Lovett, Boston: My report is based on studies made from two hospitals, the Children's Hospital in Boston and the New York Orthopedic Hospital. There had been a gradual increase in the number of cases during the past twenty-five years; the disease was especially prevalent in Massachusetts and Vermont during the first outbreak in the United States, which occurred in 1894. In the following eleven years there had been an average of fifteen cases a year. In 1905-06 no epidemics of the disease. In 1907 a large epidemic in New York City, 2,500 cases being reported. In 1908 the disease appeared quiescent. In 1909 a large epidemic occurred in various parts of the United States, 2,343 cases being reported. In 1910 a larger number of cases were reported than at any time before, and its distribution seemed to be greater than in any previous year; there were 8,700 cases reported.

Prevailing Clinical Manifestations of Poliomyelitis. The Cerebral Type

Dr. Henry Koplik, New York City: The cerebral forms of poliomyelitis were first brought to the attention of the profession in 1905 and in the epidemic described by Wickman in Sweden. Polioencephalitis, poliomyeloencephalitis of Strümpel, that form of encephalitis of Oppenheim, were included, as were also the forms of polioencephalitis, inferior and superior, of Wernick. All forms might be merged in some cases in one another. The greatest difficulties are offered by the cerebral cases which simulate either meningococcic meningitis, with isolated basic palsies, or meningitis of the tuberculous type.

Prevailing Clinical Manifestations of Poliomyelitis—the Spinal Type

Dr. John Lovett Morse, Boston: It is commonly known that paralysis comes on quickly in the course of a few hours, or at most three or four days; this is followed by a stationary period of from one to four weeks, and this by a period of improvement lasting from six months or a year, and finally the paralysis occurring, which is, as a rule, less than the initial paralysis. As a rule, spinal paralysis is mono- or hemiplegic, and it is comparatively unusual to have all the muscles of the extremities involved. It is not unusual for other muscles than those of the extremities to be involved. Diagnosis of infantile paralysis of the spinal type after the development of the paralysis is easy; the difficulty is in making a diagnosis before the appearance of the paralysis. Hyperesthesia is the most constant and the most important symptom. The only possible method of making a diagnosis of infantile paralysis of the spinal form before the onset of paralysis is by lumbar puncture.

The Present Status of Experimental Work on the Nature and Treatment of Poliomyelitis

Dr. Simon Flexner, New York City: It is now common knowledge that infantile paralysis, as it occurs in human beings, is readily transmitted to monkeys, though monkeys are insusceptible to the disease. The disease has not yet appeared spontaneously among monkeys as the result of contact; it is necessary that the virus pass the barriers of the external surface of the body. This is not possessed to the same degree in the human being, especially the young. There are two questions of importance: first, control by prevention; second, cure by treatment. Control of the disease by prevention is the mode of dealing with the disease which should be preferred. The fact has been established clinically that direct contact has a very important bearing on the transmission of the disease. Insects can be contaminated and be made a transmitter of the disease, but for the purpose of prevention the idea that human contact is an efficient means for the spread of the infection should be accepted. The house-fly fulfils the requirements for transmission, and it has been shown that flies contaminated with the virus can transmit it, but experiments in this line are not yet completed. Under certain conditions the virus is excreted with the secretions of the nose and throat; flies feed on these secretions, particularly among the sick, and those whose bodies are more or less paralyzed, or those who are delirious, and can become contaminated in this way. The question of therapy presents itself along two lines, one of which is serum-therapy. The value of the serum is slight, however. We possess in hexamethylenamin a drug which can act in the presence of this serum and prove of great value. Experiments have proved that it can prevent the disease in monkeys.

DISCUSSION

Dr. Samuel S. Adams, Washington: I addressed a letter to every children's hospital in the country last fall asking a number of questions as to the spread of the disease. Replies to the question as to the disease originating in the hospital were invariably in the negative.

Dr. A. C. Cotton, Chicago: I advocate depletion as a rational treatment; elimination of the unknown toxin; profuse catharsis; diaphoresis; diuresis and perhaps blood-letting. I also used a combination of ergot and bromids to diminish hyperemia of the spinal cord.

A Study of One Hundred Infants from Birth to the End of the First Year

Dr. Charles Hermann, New York: This work was originally undertaken for the purpose of determining what could be done in lowering the mortality in a series of infants by advising the mothers and supervising the infants from their birth. Briefly stated, the work was carried on as follows: From June 1, 1909, to June 1, 1910, 172 babies were born in the maternity ward of the Lebanon Hospital. After delivery the mothers were instructed in the care and feeding of infants, and a printed form containing a few of the most important points were given to them to assist the memory. Special emphasis was placed on the importance of breast feeding. They were also given a card to the Pediatric Department of the dispensary and requested to return to the dispensary within ten days after leaving the hospital. If they did not come in at this time, a postal card was sent, and if that failed, a visit to the house was made. Sick infants were to be brought to the dispensary immediately. Total number of infants born in the maternity ward, 172. Males 100, females 72. Deaths during the first year of life, 14. Number followed for one year or more, 125. Breast-fed exclusively for five months or more, 66 per cent.; breast-fed partially for five months or more, 83 per cent. The following points were demonstrated: (1) Breast milk may be made to reappear in a breast that has not functionated for more than two months; (2) a mother may believe that she has not sufficient breast milk, when, as a matter of fact, she has more than enough; (3) the great importance of proper advice to counteract the improper advice of neighbors; (4) an infant may show an insufficient gain in weight during the first three months, although the food, breast milk or artificial, may be of proper quality and quantity; at about the third month on the same food the infant will rather suddenly gain much more rapidly in weight; (5) cases presenting at different times during the first year the characteristic manifestations of the "exudative diathesis;" recurring attacks of loose mucous stools considered as one of the manifestations; (6) the importance of a baby's ward to which the very sick can be referred and the necessity of having breast milk for the extremely bad cases; (7) breast feeding may be possible in an infant even when several preceding infants of the same mother were artificially fed. Not a single death occurred in an infant that was breast-fed for more than five months; none of those that died were breast-fed at the time of death.

Recurrence of Scarlet Fever

Dr. J. P. Crozer Griffith, Philadelphia: Recurrence of the typical forms is a rarity, but that it does occur is supported by the testimony of many writers. A boy, 2 years old, on April 12 had nose bleed and vomiting. Next day he did not appear to be ill, but late in the afternoon again vomited. On the following day he had a scarletiform rash over the thorax and abdomen. He ran a mild course of scarlet fever. The efflorescence disappeared during the first week of illness. One week later he had some sneezing, cough, and there appeared a well-marked attack of measles. The desquamation of measles was concealed by the desquamation of the scarlet fever. The child remained well until May 14 of the following year—thirteen months later—when he became restless and feverish during the night. Twenty-four hours later he was covered with a typical scarletiform rash. There also developed a post-scarlet fever nephritis.

DISCUSSION

Dr. L. Emmett Holt, New York: I saw one case of recurrence of scarlet fever, the first attack at the age of 7 and the second at the age of 24; both were severe and typical; in one there was an otitis and in the second a nephritis.

Dr. C. Gilmore Kerley, New York: I saw two cases of recurrence of scarlet fever, the second of which was beyond question a true one.

Dr. A. Jacobi, New York: I have seen but two cases of recurrent scarlet fever, but they were decided cases.

Dr. Henry T. Machell, Toronto: I saw one case of recurrent scarlet fever.

Duodenal Ulcer in Early Life

Dr. J. P. Crozer Griffith, Philadelphia: This condition is such a rare one that the text-books take no note of it whatever. I saw two cases, the first one of which was uncertain, not coming to autopsy. The second was a child 6 months of age. Fed artificially for four weeks, he began to suffer from gastric disturbances and failed to gain in weight. Constipation developed and there was discharge of very hard feces. A milk mixture right in fat was given. Blood appeared in the vomited matter and there were dark and bloody stools. The child went into collapse, became moribund and died. At autopsy an ulcer was found just below the pylorus which measured about 5 mm. in diameter; there was no stenosis of the pylorus.

Means of Protection Against Contagious Diseases in Hospital Work

Dr. William P. Northrup, New York: At the Presbyterian Hospital we use, first, the "Grille" or bed screen; this is 4 feet high and entirely encloses the child's bed. The psychologic effect is to indicate that no one is to approach. The idea is based on that of contact infection. Second, we use an examination table which enables the physician to work with comfort in intubations, aspirations, punctures, etc. A crib-warmer consists of an asbestos box containing an electric heater. The electricity sufficient for an ordinary 16-candlepower lamp is all that is necessary. Bath-tubs have been abolished, as they are thought to be a great source of infection, and marble slabs sloping to a sink have been substituted with sprays for cleansing the skin.

The Preservation of Health in School Children

Dr. R. G. Freeman, New York City: The following are essential for the preservation of good health among school children: There should be short school hours; frequent recesses, open or well-ventilated school rooms, roof playgrounds in the cities, individual study of the backward or feeble-minded children. Every public school child should be supervised at play as well as at study. There should be a medical supervisor who should have control of the preservation of the health of school children; exclusion of all school children who suffer with colds, as well as those suffering with other contagious diseases; dismissal from school during the period of intubation of all children who have been exposed.

Diabetes in a Seven Months' Old Child

Dr. P. J. Eaton, Pittsburg: The baby appeared to be thriving well until December, 1910, when it had a swelling of the toe of the left foot. The following week the toe of the right foot presented a similar appearance. Toes were red and swollen, but not painful to touch. Urine was collected; specific gravity, 1.037; typical reaction for grape sugar; acetone and diacetic acid were present—over 10 per cent.

Dr. A. Jacobi, New York City: I advocate the use of four drugs in the treatment of the condition: salicylic acid, arsenic, codein and atropin.

Which is Preferable in Colon Irrigation—the Long or the Short Tube?

Dr. Henry T. Machell, Toronto: I analyzed 200 cases. For the amount injected the short nozzle has the advantage; the fluid is retained for a longer time and the amount permanently retained is larger.

DISCUSSION

Dr. Charles G. Jennings, Detroit: Dr. Yates made some interesting experiments along this same line and showed that it is practically impossible to introduce a long tube into the colon: it simply folds on itself and remains in the lower part of the bowel.

Dr. A. Jacobi, New York City: It is more than thirty years since I have attempted to use the long tube.

Dr. Henry D. Chapin, New York City: You could get the same effect with much more safety with the short tube than with the long tube.

The Use of Malt Sugar and High Percentages of Casein in Infant Feeding

Dr. J. Lovett Morse, Boston: I am not yet prepared to accept Finkelstein and Meyer's statements regarding their method of treatment in all disturbances of nutrition in infants which are accompanied by diarrhea. There is a strong argument against sugar as the etiologic factor in fermentation, and the treatment of fermentative conditions by a food very low in sugar and high in proteids is rational. The substitution of dextrin-maltose mixtures for lactose also seems rational. It seems that it would be possible to take advantage of what was best in the method and at the same time avoid the disadvantage of a routine food and the superfluous buttermilk by applying them in modification of the milk by the percentage method. By the use of cream containing a high percentage of fat it is possible to reduce the amount of unprecipitated casein to a very low percentage. The precipitated casein is prepared according to Finkelstein and Meyer's method, the casein from 1 quart of milk being made into an emulsion with sufficient water added to make 1 pint.

DISCUSSION

Dr. A. Jacobi, New York City: The great principle in the treatment of these cases is little fat, little milk sugar and more carbohydrates.

Dr. R. G. Freeman, New York City: The advantage of the Finkelstein method is the low fat and low sugar. While I have found it very good in children that were vomiting and had bowel trouble, children would not gain on it unless more sugar or fat was added.

Mikulicz' Disease with Report of a Case of Lymphatic Leukemia in a Child with Marked Enlargement of the Salivary Glands

Dr. Wilder Tileston, New Haven, Conn.: A child 2 years old, had large tumors in both parotids, both submaxillary glands, the lachrymal gland not being involved. Autopsy showed that there could be but little doubt that it should be classified as above. The term should be reserved for those cases of chronic bilateral enlargement of the salivary and lachrymal glands in which pseudo-leukemia and leukemia can be excluded. The cases occurring in the last-named disease should be classified as pseudo-leukemia or leukemia with the Mikulicz syndrome. The cause of Mikulicz' disease is probably some infectious agent. It is likely that a number of different organisms might cause the symptoms of the disease.

LOUISIANA STATE MEDICAL SOCIETY

Thirty-Second Annual Meeting, held at Shreveport, May 30-June 1, 1911

(Concluded from page 42)

Antityphoid Vaccination

Dr. C. C. Bass, New Orleans: Although typhoid vaccines are variable, and although there is considerable experimental work necessary before the most can be accomplished, the evidence of immunity is so strong and the amount of inconvenience and discomfort are so small that doctors, nurses and others frequently exposed to typhoid infection should take advantage of vaccination. The agglutination test should be used both to determine when immunity has been secured, and as a guide to vaccination, and also as a check on vaccines, with low immunizing powers. A quick macroscopic typhoid agglutination test can be made in one or two minutes and has many advantages over the usual microscopic test for this and other purposes. Of 247 persons whom I vaccinated, 1 has had typhoid, and in fact had it when he was vaccinated. At least six students of the medical college had typhoid during the session, but none of them had been vaccinated.

The Relation of Gall-Bladder Diseases to Disturbances of Digestion

Dr. J. E. Knighton, Shreveport: In a long series of autopsies, published recently by McGlenn, 506 cases of gall-stones were found, being about 6 per cent. of the total number of autopsies, and out of this entire number of 506, only 21 were diagnosed before death. It seems to me that we are forced to the conclusion that only a small percentage of the cases present atypical and characteristic paroxysms of hepatic colic, jaundice, etc. As so many gastro-intestinal lesions are associated with gall-stones, and that in many cases where no definite lesion exists there is a disturbance of gastric secretion, it is obvious that a greater percentage of diagnoses should be made than are reported.

Experience with the Modified Wassermann Reaction

Dr. A. A. Herold, Shreveport: Out of my last twenty-two cases, I have secured thirteen positives, and nine negatives. The Wassermann reaction is a practical aid to the clinician, and some of my cases show conclusively its value. Probably, however, its greatest utility is in cases which give a perfect history of infection, but where we are not satisfied that the treatment which they have undergone has cured them. Given a case with a typical Hunterian chancre, followed in a few weeks by classical secondaries, we are justified in treating that patient without a confirmatory laboratory test. If, after leaving off treatment four to six months, he presents no clinical symptoms and gives a negative Wassermann, you may pretty safely tell him he may marry.

Influence of Southern Louisiana Climate on Pulmonary Tuberculosis

Dr. E. L. McGehee, New Orleans: The precipitation is above the average, the flat surface exposing so large an area for rapid evaporation, and with sandy porous sulphur-laden soil which rapidly absorbs, generating ozone and preventing humidity. A mild climate with seldom rapid changes, and more seldom extreme temperature. Though a long summer, the heat is tempered by an ocean breeze, the moisture of which is absorbed in passing through the pine forests. Hence the flat, pine-covered sandy lands, of south Louisiana especially, will not make heavy drafts on vital energy, thus hasten retrograde change, but seem to retard old age and make death more remote, as is shown by the number of prolific octogenarians living in this region.

Cryptorchidism

Dr. H. B. Gessner, New Orleans: I have had two cases of cryptorchidism operated on by the Bevan method. In case one, primary union resulted. The final result was satisfactory, the testis remaining comfortably in the scrotum. The patient was discharged two weeks later. In case two, primary healing occurred, and the patient went home a fortnight later.

The Rôle of the Gametes in Relapsing Malaria

Dr. William Krauss, Memphis, Tenn.: We have recurrences of malarial fever by means of reinfection from without, by reinfection from one's own gametes, by resegmentation of macrogametes, without the aid of anophelines and reintroduction, and, possibly, by the conjugation of plastogamy, according to Craig. In any case, it should be remembered that it is just the symptomless gamete carriers which perpetuate the infection, and that every opportunity should be made use of to examine the blood of persons who have suffered from malarial attacks, and, if gametes are found, to use active and persistent cinchonization for at least thirty days. In my experience it has seemed more desirable, although I am not borne out by tropical workers, to interrupt this quinin therapy from time to time, and continue it somewhat longer. It is my opinion that a campaign directed against gametes is worth more in eradication of malaria than all the other methods combined. We will probably always have gametes; let us see that they remain sterile.

When Shall We Operate in Crushing Injuries?

Dr. J. L. Wilson, Alexandria: I believe the opinion today among surgeons is that we should wait until the patient has reacted from shock and hemorrhage before any operative procedure is attempted. The length of time that operation should be delayed with safety in these cases will depend on the location of the injury, the probability of early infection, and the condition of the patient with reference to shock. I have seen a number of patients recover after severe multiple injuries of the extremities, simply for the reason that sufficient time was allowed for shock to pass before any attempt was made to operate. On the other hand, I have witnessed deaths in such cases in which the added shock of the operation hastened the end.

Conservative Surgery of the Shoulder Joint

Dr. William M. Perkins, New Orleans: We should attempt to preserve shoulder function even though there is small chance of success. By no means should one advocate unwise conservatism; much can be accomplished by taking advantage of every opportunity for saving tissue and function, and retreating before disease only when we must.

The Abortive Treatment of Acute Gonorrhea in the Male Urethra.

Dr. J. M. Bodenheimer, Shreveport: I have treated thirty-four cases of beginning gonorrhea by sealing argyrol in the urethra. Two cases were given only one injection with prompt results. The remainder were given two and three injections. I saw untoward effects in only two cases.

Treatment of Tetanus

Dr. Joseph D. Martin, New Orleans: From May 1, 1905, to January 1911, there were treated in the Charity Hospital forty-six cases of tetanus in adults. Of these twenty-eight were males and eight females. In twenty-eight cases the injury was in the foot; fourteen were due to nails and ten to splinters. Of the forty-six cases, nine recovered. The average incubation period for those who recovered was sixteen days, for those who died, seven and a fraction days. Twelve of these thirty-seven died in the first twenty-four hours. According to the records, only nineteen of the cases received serum. The dose was anywhere from ten to fifty c.c. Bromid or chloral was used in every case, the dose ranging from twenty to forty grains of bromid, and five to ten grains of chloral, every two, three, or four hours, as indicated. Twenty-two of the cases had convulsions. Trismus and pain in the back of the neck were always the first symptoms complained of. The wound should be as thoroughly asepticized as possible, freely opened, and any foreign body removed, then swabbed out with pure carbolic acid, followed by alcohol. Fifteen hundred units of antitetanic serum should be given each day at least five or six days and chloretone in thirty-grain doses should be given by rectum. I prefer this route because by mouth it is liable to upset the stomach as the occasion arises, and I believe the respirations are a good guide to go by. When the respirations go above thirty, it means the diaphragm muscle is having a hard time and if not relieved it is only a question of how long it will be able to last. Morphin should be given only when there is pain. Liquid nourishment is to be given. A most important part of the treatment is to keep the bowels open.

Senile Hypertrophy of the Prostate

Dr. A. Nelken, New Orleans: My preference is for the suprapubic operation. It is undoubtedly the easier and the more rapid one. The danger of wounding the rectum, with all the disagreeable sequelæ of recto-urethral fistulæ, is absent. The vesical cavity can easily be inspected by the eye, if thought necessary, but, as a rule, the trained finger will give as much or more information. I have never had insurmountable difficulty in removing a fibroid prostate. The careful use of the scissors, although very rarely required, will prove of great assistance in clipping restraining bands, where the prostate will not peel readily from its sheath. I have had but one case of troublesome hemorrhage, and its management was not difficult. I have operated on seventeen cases of enlarged prostate, with three deaths. My deaths have all occurred in Charity Hospital cases, where conditions both as to the physical condition of the patient and the after-care were not ideal. One of my patients died of pneumonia two days after the operation, due to exposure during the preparation of the field for operation. Another patient died of kidney failure three weeks after being operated on, and the third death was in a man of 84, a bad surgical subject, and a case which I do not believe that now, with a larger experience, I would attempt to do a radical operation in. In the remainder of the cases that I have been able to follow, the ultimate results have been uniformly good.

Intermittent Hydronephrosis.

Dr. Marion Souchon, New Orleans: I saw a typical case of intermittent hydronephrosis in a male, aged 45, due to the passing of renal calculi. I performed perineal-ureterolithotomy.

Primary Extra-Uterine Abdominal Pregnancy

Dr. I. M. Callaway, Shreveport: A woman, aged 26, entered the hospital Feb. 25, 1911. Her case was considered one of ordinary pregnancy. After one or two weeks she as attacked with nausea and pains in the abdomen. Thinking it as the beginning of labor, I examined her and found the fetal head in the left hypochondriac region. The abdominal walls were so thin that the hands could be palpated and observed to move. The fetal heart was heard and movements were freely observed. In the right iliac region a mass was palpated, which afterward proved to be the enlarged uterus with placenta attached. Vaginal examination showed long patulous cervix in the right pelvis, and a mass of feet and knees in the left pelvis. The woman gave a history of hemorrhage from the uterus lasting six weeks, about seven and a half months previous to this examination, then cessation as to time of delivery. During this period she, at times, had a whitish membranous discharge, and with these symptoms a diagnosis of abdominal pregnancy was made. As the fetus was alive and the woman in good condition I delayed as long as possible abdominal section, hoping to let the child go to viable age. This was her third pregnancy; the two other labors were normal, the youngest child being 2 years old. On March 29, 1911, after a severe attack of general abdominal pain and vomiting, I opened the abdomen. The abdominal wall was very thin. I found a very friable placental sac, which ruptured on handling, and a fully developed child was delivered.

Enterostomy as a Life-Saving Measure

Dr. F. W. Parham, New Orleans: I believe the guide in doing enterostomy in all cases should be the condition of the patient and the duration of the obstruction. If his condition should permit, the obstruction should be found and radically treated, otherwise enterostomy should be done. No matter what the nature of the obstruction, enterostomy should be preferred, if the patient's condition does not warrant radical intervention. But the ease and safety of the operation must not be made the excuse for avoiding a responsibility which the surgeon should shoulder. Enterostomy must be reserved for the exceptional cases where relief must be quick and no radical procedure is justified. The indication being clear, we must do the enterostomy in the simplest and safest way.

Other Papers Read

The following papers were also read:

"Albuminuric Retinitis of Pregnancy, With Detachment of the Retina," by Dr. M. Feingold, New Orleans; "Diagnosis of Abnormal Stomach Evacuations," by Dr. F. E. LaMothe, New Orleans; "The Pathology of Pregnancy," by Dr. George B. Lawrason, Shreveport; "Treatment of Old Intracapsular Fracture of the Hip Joint, Illustrated," by Dr. Edward S. Hatch, New Orleans; "Epithelioma of the Lip," by Dr. J. C. Willis, Shreveport; "Insurance Companies in Their Relations to Sanitary Science," by Dr. J. H. Florence, Houston, Texas; "The Various Anesthetics as Applied to Obstetrical Work," by Dr. A. C. King, New Orleans; "Surgical Relief of a Case of Gastroptosis," by Dr. M. H. McGuire, New Orleans; "The Office Treatment of Rectal Diseases," by Dr. Charles Chassaignac, New Orleans; "Sanitation," by Dr. L. Lazoro, [illegible] ary Notes on the Ammonia Content of the Bl[illegible] nditions," by Dr Ralph Hopkins, New Orl[illegible] and Plasmodia in the Tissues of Pernicious M[illegible] H. Harris, New Orleans; "Vaccine Therapy in Leprosy," by Dr. C. W. Duval, New Orleans; "The Relative Value of the Neutrophilic Blood Picture as a Guide in the Administration of the Tuberculins," by Dr. Wallace J. Durel, New Orleans; "Results of My Investigations Concerning the Extent of Hookworm Infection in Louisiana," by Dr. S. D. Porter, New Orleans; "Dietetics in Typhoid Fever," by Dr. J. B. Guthrie, New Orleans; "A Case Illustrating the Dangers Following the Use of the Bladder Catheter," by Dr. S. M. D. Clark, New Orleans; "Some Notes on the Pathology of Labor," by Dr. D. O. Willis, Leesville.

THE MASSACHUSETTS MEDICAL SOCIETY

One Hundred and Thirtieth Annual Meeting, held in Boston, June 13-14, 1911

The President, **Dr. George B. Shattuck**, Boston, Presiding

Officers Elected

A list of the officers elected was given in The Journal, July 1, page 32.

The next meeting will be held at Boston, June 12-13, 1912.

The report of the secretary showed that 145 new members had been admitted during the year; that the total membership June 14 was 3,361, and that there was a balance in the treasury on April 15, 1911, of $14,745.31.

In response to a communication from the Board of Trustees of the American Medical Association requesting an expression of opinion on the subject of making in the future all members of state societies *ipso facto* members of the American Medical Association, the Massachusetts Medical Society adopted a resolution stating that it "is impossible to devise a scheme whereby the desired object may be attained," and therefore that it considered the proposition "inexpedient."

The Case of G. W. Galvin

The findings and recommendations of the board of trial convened to try George William Galvin of Boston, a member of the society, on charges of advertising his methods of practice, to-wit, that he was guilty, and that he be and is expelled from his membership, were approved by a unanimous vote.

Amendment on Change of Residence

The following proposed amendment to the by-laws was offered and referred to the next annual meeting for action:

> Add to By-Law 9 the following: "Any fellow wishing to change his membership from one district society to another may petition the council in writing to grant such change, stating his reasons therefor. Such petitions shall be referred to the Committee on Membership and Finance, who shall consider the petitions, shall consult with the officers of the two districts involved in the change, and shall report recommendations to the council. The council shall decide by vote whether or not such petitions shall be granted."

Suits for Alleged Malpractice

Dr. G. W. Gay, Boston: Malpractice suits have little effect on a medical man's reputation or on his practice. Reputation is established by a long process. Suits should be contested in every case to the last stage. A function of a medical society is to furnish counsel for defense of its members; seventeen state societies now do so. In New York State 147 cases have been tried and none lost. Reputable physicians recognize their duties to themselves and to the public; they give their services to poor and rich alike, gladly and freely, and to hospitals and dispensaries *and receive no compensation.* Members of the profession should stand together to contest all cases against them and should not compromise or settle out of court. All reputable physicians should act as a unit. Let the profession understand this and suits will be rare.

Coexistent Epidemic Cerebrospinal Meningitis and Malaria

DR. W. J. COLLINS, Northampton: I have seen three cases of epidemic cerebrospinal meningitis, one tertian malaria and one cerebrospinal meningitis coexisting with tertian malaria. The five cases came to Northampton from the same locality in Lamia, Greece, on different ships. Two of the patients died. In the case of coexistent cerebrospinal meningitis and malaria, elevation of temperature to 106 F. occurred one week after treatment, consisting of large doses of quinin for a month, had been omitted: all the symptoms of malaria returned and the malarial organisms were again found in the blood.

Why and When to Operate on Fractures

DR. F. J. COTTON, Boston: Operations should be performed only because the non-operative results are bad in certain cases and classes. I was one of the first in this community to do routine open operative work on fractures, and as time has gone on I have become more radical as the results in this field have improved. Applying plates to fractures is not a difficult proceeding. The point that is hard to settle is when to apply them. In compound fractures interference is called for perforce, and the chances of infection are greater than with the wound made deliberately. *Radical intervention is indicated in nearly all fresh compound fractures.* Operative fixation at the time a compound fracture is cleaned should be avoided as a rule; sometimes it is better practice to let the wound heal and cut down later to secure fixation of the fragments. The only uncomplicated fracture which should be always treated by open operation is fracture of the patella with separation of the fragments, but this statement is to be qualified by saying that non-operative treatment gives very tolerable results and is to be preferred in the aged and infirm. In all other fractures non-operative treatment should be tried first—incision being used only after failure. The use of the *x*-ray within a fortnight will test the results obtained by non-operative treatment.

After considering the proper treatment of the different varieties of fracture, I made the following summary:

Operable as a routine: Compound fractures; fractures complicated with vessel lesions; fractures complicated with nerve lesions; patella fractures; olecranon fractures; fracture-luxations, especially at the shoulder; acromid-clavicular luxations.

Usually operable after trial of milder methods: Carpal injuries; fractures of the shaft of the femur.

Often operable: Fractures of the humerus and of the leg.

Operable on occasions: In patients in good condition all fractures that promise a bad result if treated by the older methods, provided we can show good reasons for expecting a better result from operation.

Circulatory Disease. Its Prevalence in New England, Massachusetts and Boston

DR. E. W. DWIGHT, Boston: Statistics show a great improvement in mortality as a whole; that the average duration of life has largely increased, and that the chances of a new-born infant reaching the age of 30 have multiplied. But this increase in the expectation of life has taken place among the younger ages, and, while the number reaching the age of 30 has increased, the proportion of those of that age who live to be 70 has not only relatively but actually diminished.

ARKANSAS MEDICAL SOCIETY

Thirty-Fifth Annual Meeting, held at Fort Smith, May 2-5, 1911

The President, DR. R. C. DORR, Batesville, in the Chair

Officers Elected

A list of the newly elected officers appeared in THE JOURNAL May 20, p. 1486.

The president was given authority to appoint a state organizer. There are seventy-five counties in the state, sixty-two of which have component societies, leaving thirteen unorganized.

State Medicine and Public Hygiene

DR. ST. CLOUD COOPER, Fort Smith: Medical men are the logical guardians of the public health, and by reason of the tireless investigations and assiduous labors of the profession the span of human life has been sensibly lengthened; unhealthy places made habitable and diseases formerly virulent have lost their terrors. Thousands of babies are saved annually by better milk and proper care.

The Control of Tuberculosis

DR. J. D. SOUTHARD, Fort Smith: Conscientious, energetic, patient effort should secure the cooperation of the laity, and we should educate the laity as to the value of pure air. Ample provision should be made in every household for fresh air supply. Ventilation of public halls, conveyances, churches, schools and lodges should receive proper consideration. Every public-spirited citizen should lend his sympathy and support and join in a strong effort to abate its ravages by prophylactic measures.

Sanatoriums and Hospitals for Tuberculosis

DR. J. S. SHIBLEY, Paris: Arkansas contributes 3,000 lives annually to this disease. Our only salvation lies in prevention. Every county should have a tuberculosis hospital. Every community must handle the problem within its own borders. No single state institution can meet the needs of the commonwealth.

Recent Legislation

DR. R. C. DORR, Batesville: I wish to congratulate the society on the supreme court decision sustaining the medical practice law, giving the state board authority to revoke a license for illegitimate practice. *Candidates for license should be required to make several laboratory tests in addition to the written examination.* Arkansas should have a state hospital for inebriates and sufferers from drug addictions, after the plan of Iowa and Minnesota, where very satisfactory results are reported. Statistics gathered at the Iowa institution show that nine-tenths of the victims contract these habits between the ages of 15 and 39, the reproductive period, when families are reared and fortunes accumulated; therefore, the economic value of such a safeguard cannot be overestimated.

Tabes and Pseudotabes

DR. E. P. BLEDSOE, Little Rock: All the so-called parasyphilitic diseases are a single morbid entity. When recognized early and subjected to vigorous antisyphilitic treatment, prompt recoveries may be expected with remission of all tabetic symptoms. In true tabes we have parasyphilitic conditions in which antisyphilitic remedies are useless. In pseudotabes we deal with syphilitic spinal or cerebrospinal disturbances which are true, though rare, tertian manifestations—therefore amenable to vigorous antisyphilitic treatment.

Correlation of Diseases of the Digestive Tract and Respiratory Organs

DR. E. G. EPLER, Fort Smith: The morbid conditions created by sluggish kidneys are often so masked as to be discovered only by autopsy. Records of the Massachusetts General Hospital showed 50 per cent. of error in the diagnosis of interstitial nephritis. Many pathologic disturbances are directly traceable to deficient elimination by the kidneys. Early and accurate diagnosis is important. Alcoholics, tobacco, caffein, nitrogenous foods, nervous and muscular strain are harmful. Treatment should consist in the administration of calomel, digitalis, strophanthus, sweet spirits of nitre, extract of broom corn, honey, American hemp, physical exercise, good hygiene, hydrotherapy.

Rheumatism

Dr. M. G. Thompson, Hot Springs: Rheumatism is a by-product of gastric atony, torpid liver, sluggish kidneys. Meat-eaters bear the brunt. Heroic purgation is indicated to abort acute symptoms. Faulty elimination and stranded waste products are the prime cause. Hydrotherapy—abundant draughts of pure water are strongly recommended.

Serotherapy

Dr. Samuel Steer, Hot Springs: There has been a gradual decline in the use of gonococcic bacterins and vaccines. Inability to secure results has brought about the use of mixed injections of heroic size. The outlook in the treatment of chronic gonorrheal infection seems discouraging. Renewed attention is being given to auto-intoxication, faulty metabolism, insufficient or excessive secretions and elimination. Gratifying results have been secured by the Wassermann reaction in diagnosis. The therapeutic value of salvarsan has not yet been settled definitely; but if not a specific, it promises to be a valuable adjunct in treatment. I would warn as to the probable harm from false confidence inspired by temporary abatement of symptoms.

Prevention of Syphilis

Dr. Errett Myers, Hot Springs: I believe an increased prevalence of syphilis is manifest. The spread is due to ignorance, immorality and poverty. There is need for a united effort by profession and laity along moral, ethical, legal and medical lines. The systems of frequent medical examinations instituted in some parts of the world have proved futile as a prophylactic measure. Sociologic problems demand earnest effort and effective work on the part of all. The public should be enlightened, social reforms instituted, habits readjusted to correspond with modern sanitation, instruction of children physical examination of applicants for marriage licenses, better pay for working girls, abolition of dives, intelligent probation system for old offenders, rescue homes, investigation and suppression of fraudulent employment agencies, laws making centers of evil public nuisances, frequent rotation of policemen, women to be employed on the police force, vigilance in public parks, less liberty for children, except under parental watch care, or supervision and protection of competent guardian.

Gangrene of Skin

Dr. W. R. Bathurst, Little Rock: My case is of ten years duration. Patient, male, aged 45, used tobacco and stimulants; Wassermann negative; microscope negative; symptoms believed to be due to vasomotor spasm induced by faulty metabolism. Palliative measures: Alternate binding and releasing arteries at elbow; prognosis uncertain, but hopeful.

Surgical Treatment of Trachoma

Dr. Robert Caldwell, Little Rock: Trachoma is present in 60 per cent. of the inmates of the Arkansas State Institution for the Blind. Where granulations are numerous and large or papillary hypertrophy present, I recommend thorough rolling with Knapp's roller forceps under anesthesia with ether; remove all granulations; dry conjunctiva with cotton soaked in bichlorid solution, then milk well with Prince's forceps; be careful not to injure the cornea. Toilet: 1-500 solution bichlorid; irrigate well with normal salt solution. Apply iced cloths for thirty minutes; at intervals of two hours, for the next two or three days; follow with appropriate medication till conjunctiva is negative. For hypertrophied conditions not showing granulations massage with boric acid. Instil a few drops of 4 per cent. cocain solution at intervals of five minutes, three times. Results probably due to inflammation set up by the massage. Excellent results have been obtained from external canthoplasty in trichiasis, pannus, "wild hairs," etc. Entropin for chronic cases but rarely until after canthoplasty. Believe failures in entropion operation are due to not having a canthoplasty first.

Splenectomy Following Gunshot Wound

Dr. Preston Hunt, Texarkana: A young lady was injured by a 32-caliber pistol ball. The missile entered the abdomen at the median line, ½ inch below the apex of the xiphoid cartilage, penetrated the anterior wall of the stomach about the junction of the middle and left third, and made its exit at the fundus just below the cardiac opening, passing through the spleen, perforating the diaphragm and penetrating the inferior part of the lower lobe of the left lung, passing between the eighth and ninth rib and finally lodging under the skin. Operation: Perforations sutured; spleen excised; vessels ligated; incision closed by layers without drainage; gave water by stomach in three days; nourishment fourth day; semi-solid on eighth day after operation; fever developed on third or fourth day. Put in drainage, pus was discharged rather copiously for ten days, after which the wound closed by granulation. Blood-count, 45,000 leukocytes, with 25 per cent. polynuclear cells; 45 per cent. hemoglobin. Patient was given iron, quinin and strychnin with piper nigra for four days, when examination showed the hemoglobin increased to 85 per cent. At present it is 95 per cent., with 3,800,000 red blood-cells; 13,000 leukocytes. Patient now enjoys perfect health; blood is about normal.

Treatment of Fractures

Dr. J. A. Foltz, Fort Smith: Constant vigilance and thorough examination are important in the treatment of fractures. Best results are obtained from wood fiber splints and Lane splint; see that the injured limb corresponds in contour with its fellow; anesthetize always for foot reductions; remove splints and examine weekly, except in plastic surgery. Murphy's method of plastic surgery is best for injuries to the leg. The Roentgen ray is of great value. Amputation is rarely necessary.

Obstetrics and Gynecology in Country Practice

Dr. Frank B. Young, Springdale: The country obstetrician's armamentarium should comprise an ample supply of all the articles likely to be needed in accouchement; it should be packed in an ordinary traveling bag of liberal size, the obstetrical case not being large enough. The confidence of community will be readily bestowed on the careful, honest, clean operator. I prefer oil cloth or rubber sheet to cover the bed. Immediately after delivery examine for tears; sterilization of instruments by boiling, and insist on thorough sterilization of all accessories. In major gynecology skilful assistance is necessary; zealous bystanders should be excluded from active participation. Gloves do not diminish the sense of touch. Thorough asepsis and technic are the cornerstone of a successful practice.

NORTH DAKOTA MEDICAL ASSOCIATION

Twenty-Fourth Annual Meeting, held at Fargo, May 9-10, 1911

The President, Dr. H. H. Healy, Grand Forks, in the Chair

Officers Elected

A list of the newly elected officers was published in The Journal, May 20, p. 1489.

What the Association Has Done

Dr. H. H. Healy, Grand Forks: This is an era of preventive medicine. Perhaps the best work has been done by the antituberculosis league. At our last meeting the president was directed to appoint a special committee to draw up a new medical practice act, to collect money to defray the expense of the campaign, and to push the matter by all honorable means until it became a law. A committee of five was appointed soon afterward. This committee began the work and kept at it in the face of great obstacles until a very good medical practice act was passed. The present law raises the standard of medicine in the state very materially; provides a good reciprocity clause and protects the public from many classes of medical fakers. A medical defense scheme was advocated by my predecessor and, agreeable to his recommendations, a committee was appointed to perfect a plan for the association to protect its members against malicious malpractice suits. I believe this plan would not only give us insurance for a fraction of the cost we pay commercial companies, but, better still, it would tend to make membership in our association more desirable and would work for the benefit of all concerned. I recommend that the association dues be raised to at least $5. There is not a man in the state who would feel giving twice that amount. There should be sufficient money in the treasury so that it would not be necessary to call for contributions when something special arises. With the additional amount we could do more charity work, pay our secretary more, demand more of him and always have money on hand for an emergency.

Syphilis: Recent Advances in Diagnosis and Treatment

Dr. John Milton Armstrong, St. Paul, Minn.: Two lines of investigation are directly responsible for the advance in syphilology. These two activities in research—the study of animal parasitology and the problem of immunity—led to the discovery on the one hand by Schaudinn, in 1905, of the *Treponema pallidum*, and on the other hand, in 1906, by Wassermann of the reaction which bears his name. In addition to the above, due credit must be given Metchnikoff and Roux, who successfully inoculated apes and monkeys with the disease in 1903, and to those following them who have produced the disease in laboratory animals. From our present knowledge, then, we may definitely define syphilis as an eruptive treponemosis, inherited or acquired, characterized by an initial lesion of infection, followed by an acute generalized eruption and by the possibility during the whole life of the individual of new lesions in accord with the persistence of the virus in the organism. Our knowledge of syphilis has been greatly added to during the last few years, and the newer studies have proved much in the laboratory that was suspected or known before from clinical observation.

Clinical observation is of vast importance to us, as practitioners, who are more interested in the welfare of our patients than in academic knowledge. Clinical methods will never be superceded by laboratory findings to the extent one might be led to believe. Laboratory methods will only be used to confirm and aid us in diagnosis, prognosis and treatment. It is in the primary stage of syphilis that our patients are most anxious to know whether the disease is syphilis or not. As early treatment has a great effect on prognosis, early diagnosis is extremely important. Mercurials applied to a chancre, or vigorous treatment by mercury or salvarsan lessens the chances of finding the parasite. Treatment in syphilis in the past as in the present has been mercury with iodin as an adjuvant. Arsenic, iron, antimony, quinin, gold and various vegetable drugs have been used, either for specific or tonic effect. Modern pharmacology and synthetic chemistry have furnished us with arsenic salts rich in arsenic with a minimum organotrophic effect and a maximum of parasitrophic action. I have used salvarsan a number of times and have noted its effects both on my own and on the patients of others. Its effect clinically in many cases has been no more than judicious and well directed mercurial treatment. It does, however, clean up mucous lesions more rapidly than mercury. Aside from the reports of others I must conclude that salvarsan is a most valuable addition to syphilo-therapy but by no means an absolute cure.

Cerebrospinal Syphilis

Dr. Will C. Nichols, Fargo: My study is based on a series of thirty-five cases of cerebrospinal syphilis. The series includes a few cases of tabes and of general paresis and a few on the border line where questions arose as to whether the process was an active syphilitic or a parasyphilitic lesion. Final diagnosis was ultimately based on the Wassermann reaction, either in the blood, spinal fluid or both. In all cases of hemorrhage or thrombosis we were often surprised by obtaining a positive Wassermann, especially was this true in cases where the early onset of the focal symptoms raised the question of whether the vascular lesion was dependent on a specific basis. In summing up the features of a characteristic cerebrospinal syphilitic, we find that the striking thing is the multiplicity of lesions of brain and cord giving diffuse symptoms dependent on pathology present. Indefiniteness and variability in symptomatology nearly always suggestive of a diffuse process. The unusual and unexpected combination of focal signs which can only be attributed to more than one lesion and the peculiar constancy with which ocular findings occur, all unite in forming a syndrome which in its very indefiniteness characterizes cerebrospinal syphilis. The outcome of these cases depends directly on the pathology present and the time in which proper treatment is instituted. When nervous tissue is destroyed, no amount of treatment will cause it to resume function. The varieties most amenable to treatment are the meningeal, especially in the early stages of round-celled infiltration. In the treatment of nervous syphilis neurologists rely chiefly on mercurials intensely used.

DISCUSSION

Dr. Edward S. Judd, Rochester, Minn.: What Dr. Armstrong said about the use of salvarsan is very important. We read enough about it in the journals and from what we see and hear we might be led to believe that one dose will cure every case of syphilis. What was said about continuing the treatment with potassium iodid and mercury or treating with mercury alone or with salvarsan is important. I made a list of cases with results obtained with the use of salvarsan, and some of the untoward results. I have given sixty-one doses of salvarsan, fifty-two were intravenous and nine subcutaneous. About 60 per cent. were very much improved right at the start. I have not had any cures because the first injections were given not more than nine months ago. The most marked improvement I have seen so far has been in cases of syphilitic lesions of the nose and throat. A number of cases injected, within two or three days following injection, were cured; no sign of any lesion, and one of the patients had a large ulcer on one tonsil. We treated two cases of general paresis with salvarsan and both patients gave a positive Wassermann. One was benefited, or thought he was, but in a month he was so much worse from general paresis that he could not come back for treatment. Another general paresis case shows a result of treatment we have not seen or heard of in literature, and that is that the optic nerve atrophied shortly after the injection. Whether that is something new or not, I do not know; it was just the one nerve, but it was very extensive. We have treated several cases of tabes in which it has done very well, temporarily at least. One patient in a spastic condition was so bad that he was walking on crutches, and in ten days after treatment he was able to walk with a cane. Another man with diabetic paresis claimed to be benefited by the injection, but returned a month later much worse than he had ever been before. We have had no mortality, but that one case of optic neuritis should be considered. We had one small spot of gangrene following intravenous injection, and six mild cases of cellulitis following subcutaneous injection. Forty-five out of fifty-nine gave a positive Wassermann reaction, or 9 per cent.

Dr. Layton Sarles: There is no neurologic lesion in which there is a greater variability or a wider range of multiplicity of symptoms than cerebrospinal syphilis. The point to emphasize is the importance of taking the Achilles jerk. We find cerebrospinal syphilis and tabes much more apt to be followed by the Achilles reaction than knee-jerk. You will find an almost constant rigidity and variability of pupillary findings. Another point I wish to emphasize particularly is the advantage of treatment in the active stage of the cerebrospinal syphilis. When you get sclerosis in any part of the cerebrospinal system the treatment aimed to dissolve or remove the conditions that exist in the active gonorrheal stage are not going to be of any value. The treatment does cure cerebrospinal syphilis; it does not cure sclerosis. I want to commend the author for urging the leaving out of consideration all functional disturbances such as neurasthenia and hysteria, until all organic lesions have been considered. We are too prone to set down minor complaints to neurasthenia or hysteria when, if we should make a more careful study, we should find organic lesion.

Dr. W. A. Jones, Minneapolis: This is an age of doubt and suspicion. Many people who come into physicians' offices are under suspicion of having syphilis, and my practice is to give them the benefit of the specific doubt and treat them on that basis. It is said of most neurologists that when they fail to find a remedy in a nervous disease they give antisyphilitic treatment, and they often prove the existence of syphilitic lesion. The more I see of nervous syphilis the more I see the existence of lesions in no definite portion of the nervous system. The treatment of syphilitic troubles depends on the individual and his history; it depends, too, on the usual method of procedure. Most of these cases are benefited first or last. They should be carefully looked into for a period of one or two weeks; they should be given a period of rest and observation and then the line of treatment can be suggested to be followed. It does not do in all cases to inflict them with mercurial or arsenical treatment; it is necessary first of all to put them in condition where they can be taken care of without drugs. In many apparently hopeless cases the symptoms can be relieved by anti-syphilitic treatment. It is only the old cases, of long standing, where arterial occlusion takes place, that might be given up from the start.

Dr. J. A. Gislason, Grand Forks: In the clinics of Dimmer and Fuchs there is quite a difference of opinion as to the effect on the eye after using salvarsan. In the Dimmer clinic they unqualifiedly condemn the use of salvarsan on account of the optic neuritis, which they claim it causes; they claim more cases of optic neuritis in syphilitics that have been injected with salvarsan than in those treated by the old method. In the Fuchs clinic, they think the proportion of syphilitics presenting optic neuritis is just about equal with the new and old treatment. In the Dimmer clinic their cases of optic neuritis are nearly all unilateral, they have not had a case where there was bilateral optic neuritis present. Some of the men in Fuch's clinic seem to think if it was caused by salvarsan it would most likely be bilateral. In the German clinics, they seem to think that salvarsan does not do very much good in old cases, and in gonorrheal clinics they think the earlier the injection is made the better. They like to see a case as soon as there is a suspicion of infection, making daily examinations and when they find a lesion which they think will become a sore, they make a bacteriologic examination until they find the spirochetes, when they make the injection. In this way they hope to get a portion of the poison while it is circulating in the blood. After it is known that a patient has syphilis on account of the finding of the spirochetes they start the ordinary old-time treatment, and in this way the most conservative men hope to limit the disease to a period of four months instead of four years.

Dr. H. A. Beaudoux, St. Paul: I want to emphasize the point of early diagnosis of syphilis for the reason that prognosis depends on the early diagnosis because that means early treatment. The Wassermann reaction in the second and third week chancre, was present in 75 per cent. of my cases. I have a case of chancre on the interior turbinate of the nose, a very unusual site, as it occurs usually on the septum. As to untoward results after giving salvarsan, I have had cases with a great deal of pain.

The Early Symptoms and Diagnosis of Pulmonary Tuberculosis

Dr. J. L. Anderson, Powers Lake: Tuberculosis is accountable for from 11 to 15 per cent. of the total death-rate in the United States and this could be greatly reduced if we were more alert and diagnosed more cases in their incipiency. In no other disease does the restoration to health and usefulness depend so much on the detection in its incipiency. In a large percentage of cases the evidence is sufficient to make a diagnosis if we note the symptoms and make a careful physical examination. The source of infection is important, but the tracing of an individual case to an infective origin is a matter of great difficulty on account of the endemic character of the disease. In the apparently healthy we often attribute the development of tubercular symptoms to a cold or grippe and make no physical examination. The person who is subject to a series of colds or an anemia of vague origin calls for a thorough examination. A persistent temperature is of great import in the early diagnosis; the record should be kept for a period of a week and the readings taken four times a day. Expectoration in the early cases does not reveal much; vague pains in the chest are of little significance, but pain in the super or infraspinous region, especially, is due to the hyperesthesia of the muscles over diseased lungs. Hemoptysis may be the first symptom that will cause a patient to consult a doctor. In some patients their complexion acquires a peculiar yellow tint while others suffer from a marked degree of anemia. Night sweats belong to the later stages of pyrexia and excavation. The early signs are best demonstrated by auscultation. The tuberculin test should not be put on the same basis as the clinical thermometer, history and physical examination. The value of the x-ray in the diagnosis of an incipient case is a disputed point. In the hands of an experienced man a great deal may be learned, but the majority of observers think that the older methods of examination give more trustworthy indications of the disease. The important points are: First, that tuberculosis has a definite history unlike that found in any other disease; second, afternoon tiredness which may or may not be accompanied by flushing of the face; third, slight rise in temperature in the afternoon and evening, which persists day after day; fourth, slight cough or huskiness of the voice accompanied by the expectoration of a little mucus; fifth, slight loss of weight; sixth, tachycardia, especially noticed in the afternoon or after slight exertion.

DISCUSSION

Dr. James Grassick, Grand Forks: In the Ruillard Sanitarium, in Massachusetts, the record of cured cases that have been detected in their incipiency is 78 per cent.; those fairly well advanced only 50 per cent. and in those still further advanced only 25 per cent. of cures. The history of the case has to be taken into account more than the physical facts. The disease will be latent a long time before we can detect it by any physical signs. The surroundings of a patient, his manner of life, his work hours and his business should be taken into consideration, and any deviation from the normal should be noted. If you wait until you get evidence of disease through percussion, the disease has already become well advanced; auscultation will give you earlier signs. The tuberculin test is one of great value, especially the negative side of it. It is well established that from 70 to 90 per cent. of the whole population have at some time in their lives been infected with tuberculosis, but there have been manufactured antibodies, and these antibodies, when you inject the tuberculin into the body, will cause the body to react and you have a reaction of tuberculin when there is no active tuberculosis present whatever.

Dr. J. E. Engstad, Grand Forks: In my experience the primary test of tuberculin is the only one we can rely on. After tuberculin has been used once antigen is produced, and, if it is desired to test the patient again, the patient will not show a reaction, due to the antigen produced by the first test.

Dr. J. L. Anderson, Powers Lake: In the house treatment of school children up to the age of 14 in Germany only 30 per cent. were definite, even suspicious cases, so that the tuberculin test, although positive, is of small value and does not show that all tubercular cases react. In regard to the injection of tuberculin, it depends on how long a time has elapsed before the second injection is given whether the first injection has any effect.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-Sixth Annual Meeting, held at Atlantic City, N. J., May 23-25, 1911

(Concluded from page 1913)

Function of the Ovary

Dr. Robert T. Frank, New York City: Both from anatomical evidence and functional behavior the active portion of the corpus luteum must be regarded as an epithelial structure. A sharp distinction should be drawn between prooestrum and oestrum—menstruation is the homologue of prooestrum. Prooestrum and maturation of follicles coincide in all mammals, but as yet no proof has been forthcoming that maturation actually causes prooestrum. The period of desire (oestrus) is the climax of the preparatory changes occurring during prooestrum and probably due to the same causation. Ovulation is the end result of follicular maturation. In some species it occurs during or immediately after oestrus, in others the bursting of the follicle is postponed for months. Such differences in time relation are most probably accounted for by the rate of growth of the ovum and follicle. Ovulation may be accelerated by coitus. Ovulation is inhibited by the corpus luteum. The corpus luteum sensitizes the uterine mucosa and thus renders it responsive to mechanical stimuli with resulting formation of maternal placenta. The corpus luteum is essential in the early part of pregnancy as the ovum fails to obtain a foothold unless the uterus is sensitized. The corpus luteum lengthens the cycle by interfering with the maturation of growing follicles and ova. The factor which causes the persistence of the corpus luteum during pregnancy has not been discovered. Persistence of the corpus luteum may also be found independent of gravidity. Animals with interstitial glands in their ovaries may ovulate spontaneously, consequently the interstitial gland has not been shown to replace the function of the cyclical corpus luteum. Growth of the mammary gland is due to ovarian influences (maturation of follicles, activity of corpus luteum). The same factors which produce the persistence of the corpus luteum probably caused the breast hyperplasia of pregnancy.

Has the Ovary an Internal Secretion?

Dr. W. H. Morley, Detroit, Mich.: From present knowledge it is quite evident that the ovary possesses an internal secretion, produced by the corpus luteum. In so-called ovarian insufficiency relief may be obtained with an extract of the corpus luteum, No untoward symptoms result from its use in conditions where it is indicated, even if no relief is obtained. The extract should be properly prepared and given a fair trial before it is discontinued. The active principle of the ovary is not yet isolated.

Conservation of the Ovary

Dr. W. W. Chipman, Montreal: The loss of the ovaries means the loss of sex influence to the individual, with all the grave disturbances in general metabolism which this loss signifies. The earlier in life that it occurs, the greater is the calamity. Ovarian transplantation seeks to replace the lost or disabled gland. In animals this procedure has been so successfully carried out that conception has followed it, even in heteroplastic transplantation. In the human only one such case has been reported, that of R. T. Morris, although in homoplastic transplantation Morris and Frank have both reported cases. In homoplastic transplantation, the cases must be few wherein an ovary in whole or in part, is healthy enough to be removed and engrafted, and is not healthy enough to leave alone. In this connection it is wise to remember the value of the ovarian ligament, for this frequently contains active parenchyma tissue. It is also generally believed that the ovary possesses considerable capacity for regenerative tissue after its partial removal, and hence an additional reason for leaving the segments *in situ*. In selected cases the ovarian extract has a definite therapeutic value, although the results in different individuals are by no means uniform. I have seen no ill-effects follow its use, and in some instances the results are almost miraculous. In some cases I have found that the addition of arsenic or small doses of the thyroid extract give more favorable results. The natural and proper conservation of the ovary consists in leaving it alone.

Behavior of the Ovary After the Removal of the Uterus

Dr. R. L. Dickinson, Brooklyn: The conservation of ovarian structure after hysterectomy shows that four-fifths of the patients are free from disturbances of the surgical menopause. The results are somewhat better where both ovaries remain than where one is left or where resections are done. Where the disturbances have occurred, their character is less severe and more gradual than after bilateral removal of the ovaries. In married women, the conservation shows nearly uniform persistence of sexual desire. The practice of removing ovaries when taking out a uterus at or near the time of the menopause is strongly to be opposed, except in cases of malignant disease or when infected. Conservation after operations for incurable tubal infections leaves more tender and troublesome ovaries than after hysterectomies for fibroids, prolapse or the hemorrhages of chronic metritis. After removal of the uterus, particularly of one ovary, or a large fibroid, ovarian edema or hypertrophy is frequent. The menopause is likely to occur earlier than the average time in a woman who has lost her uterus. To preserve the functional activity of the ovary, its circulation must not be impaired. Removal of the tubes frequently comprises the ovarian blood-supply, and is a delicate and unnecessary adjustment. Barring disease and closed tubes and malignancy and tuberculosis, they should be disregarded and allowed to remain.

The End Results when Hysterectomy has been Done and an Ovary Left

Dr. John O. Polak, Brooklyn: The technic of the operation and the general health of the patient have much to do with the end results. A conserved ovary, if unhealthy, will leave the patient in a worse state mentally, nervously and physically than if a total extirpation had been made. When the woman is at the age in which the menopause should occur, or when she is past the menopause, a total ablation gives the best results. The nervous phenomena are more marked when the patient is operated on, when she is in comparatively good health, with a high preoperative blood-pressure, than when the blood-picture shows anemia or toxemia. The symptoms of the operative menopause are less after extirpation for pelvic inflammation than when the ablation is done for fibromyomata. This is probably due to the associated vessel changes which are found in fibrosis. And finally, when one or both healthy ovaries should be conserved it should be done, and the younger the patient, the more necessary is conservation.

Discussion on Symposium on the Ovary

Dr. Seth C. Gordon, Portland, Me.: In years past I performed a good many operations for the removal of the ovaries, and I have not regretted it. I have seen a great many women relieved by the removal of both ovaries. When we remove the ovaries, it is bad surgery to leave the uterus. I believe that when we are obliged to remove both ovaries we should always remove the uterus along with them. I do not know of any condition by which we can justify ourselves in leaving the uterus after the ovaries are removed.

Dr. A. Lapthorn Smith, Montreal: The unfortunate part of my professional experience has been so-called conservative gynecology. I was a happy operator before I began conservative work on the ovaries. Since I have been trying to save the part of an ovary I have had nothing but trouble. I believe in removing diseased ovaries and not trying to save parts of them.

Dr. W. Gill Wylie, New York: What is done to-day is a great improvement on the past, and I would accept most of what has been said by the authors of these papers; still the experience of some of us who are older in the profession has had a bad effect in one way and a good effect in another; that is, in the days when Battey proposed the removal of normal ovaries for dysmenorrhea, hemorrhage and other conditions they were even then cured. In those days I removed the ovaries for reflex troubles in some cases, but in very few. The reason I did not do more of these operations was because I found imperfect development had a great deal to do with the ovary, and that a faulty development of the ovaries had much to do with the growth and development of the women, not only as to how she menstruated, but as to the local condition and the effect on her growth.

Dr. Walter P. Manton, Detroit: I was the first in the Middle West, I believe, to take up the conservative treatment of ovaries. Years ago I published a list of 100 cases on which I had operated in a conservative manner and followed them carefully, and I found in that number a little over 94.6 per cent. of somatic cures and 5.6 per cent. of the women afterwards became pregnant. Since that time I have continued this conservative work satisfactorily, and the somatic cures have remained about the same.

Dr. Edward Reynolds, Boston: I have been working along the lines of conservatism in the treatment of the ovaries for many years, and I find that the conservative management of these cases, and the institution of operations for the correction of minor pathologic conditions in the ovaries have grown on me steadily, so that to-day I believe it is practically never necessary to remove all the ovarian tissue from a woman of child-bearing age, except in cases of malignancy, or tubo-ovarian abscess, or extreme inflammatory disease.

Dr. J. M. Baldy, Philadelphia: With reference to the internal secretion of the ovary, until absolute and unmistakable proof is furnished along this line, I do not propose to base my surgical methods and the health of my patients on any such nonsense.

Dr. George Gellhorn, St. Louis: I have used ovarian extract for a number of years, and frequently in patients who have reached the menopause, both natural and artificial, and my results have not been uniform, nor were they convincing. In the menstrual disorders of puberty the results have been a trifle better, but not constant.

Dr. Thomas J. Watkins, Chicago: I can see no logical reason for removing a normal ovary, but I can see much logical reasoning for leaving parts of diseased ovaries, especially in young women. I have left parts of suppurating ovaries, and I have never left part of a suppurating ovary that has given any trouble afterward, the sac of the abscessed ovary being very thoroughly excised.

Dr. I. S. Stone, Washington, D. C.: There is cause occasionally for leaving the uterus after the removal of the ovaries. The uterus is left frequently for the purpose of repair of intestinal injuries. It ought to be and can be used in that way. I know of nothing in my surgical work with reference to the saving of human life which has given me more satisfaction than conservative surgery on the ovaries.

Dr. Joseph Brettauer, New York City: I have had a good deal of experience with the administration of ovarian extract which came from the market, with practically no results in hundreds of cases. I have had most gratifying results in fighting the disagreeable symptoms accompanying the climacteric with very small doses of thyroid, which surely is not derived from the ovary. As to conservative surgery, I am extremely loath to open the abdomen, but when I do open it, I am very rarely conservative.

Dr. Frank T. Andrews, Chicago: For some time I have held to a theory that every rupture of a follicle consists of a spontaneous inoculation of the patient; that every rupture of a follicle is followed by a small amount of inflammation within the pelvic cavity, and that there is a response on the part of the tissues of the patient. If the spermatozoa passing into the ova exert an influence on the female, and we get future development and maturation of the ovum, that furnishes to the female the one thing which is needed to make a great many changes in the body. It furnishes the amboceptor and allows the working of Ehrlich's side-chain theory, and therefore, you have not an internal secretion, but a doubleheaded internal secretion, a combination of substances that brings about all changes in the site of attachment of the ovum in the uterus. The changes in the ovary lead to the changes in the corpus luteum, changes in the breast and general physique of the patient.

Dr. Lewis S. McMurtry, Louisville: I am sure that every man at the operating table would deal with ovarian disease in practically the same way. He will deal radically with all those cases in which there are long-standing, acute infections, and he will remove infection and remove useless organs. Others have been talking about moderate degrees of cystic degeneration, which is an entirely different subject both from a pathologic and surgical standpoint.

Dr. J. Whitridge Williams, Baltimore: In connection with the corpus luteum, when associated with the condition of hydatidiform mole, we frequently have tumors arising from the corpus luteum of very large size. We get double cystomata of the ovary, multilocular cystomata of the size of my two hands developing on either side. These cystomata are made up of cysts, of varying size, many of them reaching an inch and a half in diameter, lined by lutein cells. Whether they are the cause of the hydatidiform mole, or whether the hydatidiform mole brings about their production, I am not prepared to state, but an interesting point is this: A recent observation shows that many of these cases, if followed for a reasonable time, after extrusion of the mole, undergo absorption, and there are a number of cases in which tumors of some size have disappeared within six months after extrusion of the mole.

Dr. J. M. Munro Kerr, Glasgow, Scotland: All of us are agreed that there are certain cases in which the ovary should be conserved. On the other hand, in cases of malignant disease of the uterus, and suppurative conditions of the adnexa, it would not be considered good surgery to conserve ovaries. In such cases the uterus, tubes and ovaries should be completely extirpated.

Vaginal Cesarean Section in Eclampsia

Dr. Reuben Peterson, Ann Arbor, Mich.: Maternal and fetal mortalities are lower, the earlier the uterus is emptied after the first convulsion in antepartum eclampsia. Hence no time should be lost in employing the slower methods, but as soon as the diagnosis of eclampsia is established, the uterus should be emptied by the operation which will give the best results for mother and child. Vaginal Cesarean section means these requirements because it is based on sound surgical principles, is quickly performed, while its technic can be acquired by anyone familiar with the rudiments of obstetric surgery. Early diagnosis and early operation in antepartum eclampsia will lead to a marked reduction in both the maternal and fetal mortalities.

Anteflexion of the Cervix and Spasm of the Uterine Ligaments in Relation to Retroversion, Dysmenorrhea and Sterility

Dr. Edward Reynolds, Boston: For about eight years the muscular character of the so-called uterine ligaments has seemed to me of clinical importance in connection with the constantly accumulating evidence of the frequency of their spasms, which I have observed in the course of clinical work. This muscular tissue exists in especially important quantities in four situations, throughout the uterosacral ligaments, at the bases of the broad ligaments, along the upper edges of the broad ligaments, and in a sheath underlying the bladder and attaching the cervix of vaginal vault to the descending rami of the pubes. The insertion of the anterior vaginal wall into the cervix is also a uterine attachment of much importance. This wall is largely non-muscular and is attached at one end to the cervix and at the other to the arch of the pubes. Physiologic study of the muscular action of these structures is difficult or impossible since they are peculiar to the human female, and are commonly seen during life only when their possessor is under anesthesia. Their pathologic spasms could, however, be appreciated by the vaginal and rectovaginal touch, and can be shown to be spasms by the fact that they disappear under anesthesia and reappear spontaneously after the anesthetic is withdrawn. I believe that many cases of marked anteflexion of the cervix which are free from symptoms are also those which are free from spasmodic exaggeration of the deformity, and those which are attended by symptoms are usually the subjects of such spasm.

Epilepsy and Pregnancy

Dr. G. B. Miller, Washington, D. C.: Epilepsy has little direct influence on the course of a pregnancy, except that traumatism produced by epileptic seizures may cause a premature labor and abortion. The influence of pregnancy on epilepsy is of greater interest. In a certain proportion of cases the toxemias of pregnancy may influence very unfavorably the epilepsy, even to producing the status epilepticus. In women with epilepsy where pregnancy apparently causes the convulsions to become more frequent or more severe, one should always consider the necessity of terminating the pregnancy. In cases of pregnancy in epileptic women, one should watch with extreme care for indications of toxemia or the premonitory signs of eclampsia, and should put an end to pregnancy at the appearance of symptoms of much less gravity than would indicate this procedure in women who are not the subject of disease.

Repeated Ectopic Pregnancy, with a Report of Four Cases

Dr. Richard R. Smith, Grand Rapids, Mich.: In two of my cases the interval was about two years; in the others one year. In two of these women these pregnancies constituted the only ones, the other two having previously borne children. I have found about 170 similar cases in the literature, to which I add these, and a number of others obtained through correspondence. In a total of 2,998 cases, there have been 114 recurrences, or about 3.8 per cent. I point out the difficulty of following up hospital cases over a period of years to know of their welfare and the fact that age, social condition and lapse of time since operation are not taken into consideration in these figures. I believe the percentage will be higher in cases where a patulous tube is left and social conditions are favorable to pregnancy. These cases of repeated ectopic have occurred, as might be expected, in the child-bearing age and in the decades in which normal pregnancies are most prevalent. There was a high death-rate following the second ectopic, but later reports seem more favorable and apparently not higher than that following a single ectopic. In 116 cases of second ectopic, there were 101 recoveries, and 15 deaths with or without operation. The average length of the interval was about thirty months, but no rule can be formulated as to when a second ectopic may be expected. A considerable number occurred in less than six months. Baldy reports one occurring twelve years after the first. The percentage of interval pregnancies is small; most of the recurrences took place in the opposite tube, but a number are reported as recurring in the same one, also several ovarian pregnancies (doubtful), and an abdominal followed by a tubal. I have been unable to obtain exact data in any considerable number of cases as to further normal pregnancies following an ectopic, but believe them to be less frequent than ordinarily assumed. The matter of the disposal of the other tube should be discussed with the patient before operation whenever practicable. In young women and those desiring children the opposite tube may be saved; in those who have already borne as many children as desired, it should be sacrificed rather than to submit the woman to the distressing possibilities of a second accident. The appearance of a tube when patulous is no criterion as to its capabilities.

Medicolegal

Liability for Disfiguring X-Ray Burn—Measure of Physician's Legal Responsibility—Damages for Mental Suffering from Physical Injury

The Supreme Judicial Court of Maine overrules exceptions to a verdict in favor of the plaintiff for $3,500 damages in the malpractice case of Coombs vs. King (78 Atl. R. 468). It says that in 1901 the plaintiff was treated by the defendant for what she termed "scrofulous glands of the neck," and what the defendant said were enlarged "lymphatic nodes or glands." They were on both sides of the neck. The defendant cut them out. In 1903 bunches again appeared on the neck, one on the right side under the chin, and the other the plaintiff said on the right, and the defendant said on the left side. The defendant diagnosed the trouble as being possibly Hodgkin's disease, and advised *x*-ray treatment. It turned out not to be Hodgkin's disease, but that was immaterial, because it was not questioned that *x*-ray treatment was proper for the real trouble. However, an unintended result of the treatment was a very severe and greatly disfiguring *x*-ray burn on the left side of the plaintiff's neck and lower part of the face.

It was conceded that the defendant was a physician of great learning and skill. What the plaintiff rested her claim on was the proposition that the defendant failed to use ordinary care, which is reasonable care, and to apply his best judgment, in his treatment of her case. And, while she specified several particulars, the court notices only one, namely, want of attention and watchfulness.

The mere statement of the various phases of the *x*-ray treatment shows clearly, the court says, that it cannot be administered according to fixed and unvarying rules. All the medical witnesses concurred in saying that it is necessary to watch for the manifestations of burning during the entire period of treatment. The treatment should be adjusted to the person and the exigencies of the case. The physician may vary or temporarily discontinue the treatment. He must watch, examine, and use his best judgment. This was what the plaintiff said the defendant did not do, and what the defendant said that he did do. The court does not deem it necessary to undertake to analyze the testimony, it being sufficient to say that if that offered by the plaintiff was true, she was entitled to hold her verdict. On the other hand, if the jury should have adopted the version of the defendant, the verdict was wrong. There was nothing in the plaintiff's story which was inherently improbable or inconsistent. Unless the jury was not warranted in believing that story, the court cannot interfere. The court cannot substitute its own impression for any findings which the jury was authorized to make. While the burden was on the plaintiff to satisfy the jury of the defendant's liability, after verdict for the plaintiff the burden was on the defendant to make it clearly appear that the verdict was wrong, which, in the opinion of a majority of the court, he failed to do.

It was argued for the defendant that his responsibility must be considered with reference to the science of *x*-ray treatment as it was understood in 1903. That was true; yet it appeared from his own testimony that in 1903 he knew that *x*-rays could burn, and knew of the need of watchfulness to detect the signs of burning, in order that it might be prevented.

The measure of a physician's legal responsibility has been stated many times by this court. He contracts with the patient that he has the ordinary skill of members of his profession in like situation, that he will exercise ordinary or reasonable care and diligence in his treatment of the case, and that he will use his best judgment in the application of his skill to the case. The physician is not an insurer. He does not warrant favorable results. If he possesses ordinary skill, uses ordinary care, and applies his best judgment, he is not liable even for mistakes in judgment. Medical science is not yet, and probably never can be, in many respects, an exact, certain science. The practitioner cannot be expected to know, or be bound to diagnose correctly, that which is unknowable, as many of our hidden ailments may be. The rule of liability is not a hard one. It is a reasonable one. And the burden is on the plaintiff to show a malpractice.

Lastly, the court holds that when, as in this case, there is mental chagrin, mortification or discomfort at disfigurement, not independent of the physical injury, but the direct and natural consequence of it, the plaintiff may have damages awarded for it. There is good reason for the rule. The disfigurement is a physical injury. It is a continuing injury. The mental suffering may continue with it. The mental suffering is a real injury. It proceeds necessarily and inevitably from the physical injury. It is a natural consequence of the injury. Compensation, omitting this element, is not full compensation. One might be made repulsive to the sight for life with comparatively little physical injury, and yet, according to the rule contended for by the defendant, be entitled to but little compensation. The reason given in some cases that the amount of mental pain caused by disfigurement necessarily varies so much with the character, temperament and circumstances of the injured person that no just measure of damages from it can be found applies equally well to physical pain, though perhaps in a less degree. And damages are always allowable for physical suffering. Mental suffering is no more intangible and indefinite than physical suffering is. The damages from suffering, either mental or physical, cannot be weighed; it cannot be measured; it cannot be computed. It can only be estimated. The difficulty in making the estimate affords no good reason for failure to make it. The estimation must depend on the good sense, sound judgment and enlightened conscience of the jury, under all the facts and circumstances of the particular case, and the sensibilities of the particular person.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Bulletin of the Johns Hopkins Hospital, Baltimore

June

1 *Carbohydrate Tolerance and Posterior Lobe of Hypophysis. E. Goetsch, H. Cushing and C. Jacobson, Baltimore.
2 *Distortions of the Visual Fields in Brain Tumor. H. Cushing and G. J. Heuer, Baltimore.

1. **Carbohydrate Tolerance and Posterior Lobe of Hypophysis.**—Their experimental studies have convinced the authors that the secretory product of the posterior lobe (pars nervosa et intermedia) is discharged into the cavity of the third ventricle and becomes dissolved in the cerebrospinal fluid, a medium which passes from the ventricles to the subarachnoid spaces and thence, in all probability, enters the blood-stream by way of the dural sinuses. Under various forms of operative manipulation of the infundibulum and hypophyseal stalk-structures which appear to hold the reserve deposit of posterior lobe secretion, a transient hyperglycemia is produced, presumably due to the setting free of an excess of this secretion, which in turn causes the discharge of stored glycogen. For the succeeding few days the assimilation limit for ingested carbohydrates is considerably diminished, "alimentary glycosuria" being produced by a smaller amount of sugar than was previously required. If the operation has been so conducted as to create a subsequent and permanent insufficiency of posterior lobe secretion (either owing to the removal of a considerable portion of this lobe with its epithelial investment, or thorough interference with its secretory discharge either by the placement of a "clip" on the stalk, or by so damaging it that an infundibular cicatrix forms) the temporary lowering of the assimilation limit is succeeded by an abnormal and enduring augmentation in the tolerance for sugars. The assimilation limit for carbohydrates, greatly increased under these circumstances, can be promptly lowered by the coincident intravenous or subcutaneous injection of posterior lobe extract. This extract, furthermore, has a pronounced effect in lowering the sugar tolerance of the normal animal in whom it may even cause glycosuria when given in sufficient dosage.

They believe also, contrary to the opinion advanced by Crowe, Cushing and Homans, that the tendency toward adiposity displayed by partially hypophysectomized animals is not due solely to a deficiency of anterior lobe secretion. In view of the fact that the products of the posterior lobe secretion enter the cerebrospinal fluid, it is apparent that any intracranial lesion occasioning stasis of this fluid will lead to symptoms of posterior lobe insufficiency. An internal hydrocephalus, therefore, of whatever origin, is doubtless the most common source of moderate grades of this condition. Tumors which arise in the interpeduncular space and directly compress and deform the infundibular attachment and thus "block" the secretion furnish another not infrequent source of the same symptoms. A third form of posterior lobe deficiency occurs as a late manifestation of a preexisting hypophyseal hyperplasia, much as, in the case of the thyroid, evidences of myxedema, in the course of time, are likely to supervene on states of hyperthyroidism.

2. **Distortions of Visual Fields in Brain Tumor.**—In a series of 200 cases of brain tumor, Cushing and Heuer secured reliable perimetric charts in 123 cases. These have shown (1) normal fields in twenty-seven cases; (2) simple color interlacing or inversion (dyschromatopsia) with more or less constriction, but without other field distortion in fifty-three cases; and (3) hemianopsia, or a tendency toward this defect, in forty-two cases.

Virginia Medical Semi-Monthly, Richmond

May 26

3 Incipient Insanity. W. F. Drewry, Petersburg.
4 Neuritis. M. W. Peyser, Richmond.
5 The Ureteral Catheter. R. C. Bryan, Richmond.
6 Lesions of the Sacro-Iliac Synchondrosis. J. Dunlop, Washington, D. C.

St. Louis Medical Review

May

7 Pubiotomy. A. Samuels, Baltimore.
8 The Hospital School for Backward Children. E. B. McCready, Pittsburg, Pa.
9 Treatment of Hydrocele. C. G. Cumston, Boston.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

June

10 Minnesota State Medical Association. H. H. Healy, Grand Forks, N. D.
11 *Mixed Tumors of the Parotid. E. S. Judd, Rochester.

11. **Mixed Tumors of Parotid.**—In twenty-two of the forty-one cases reported by Judd the tumors were in the right parotid. Twenty-five of the patients were females. The majority of these tumors occurred in the second decade. The youngest patient in the series was 15 years of age and the oldest 71 years of age. The average length of time in which the patient had the trouble before operation was eight years. One case appeared to be of one month's duration. In nine of these cases the endothelial element predominated, five were sarcomatous, three were mixed-cell tumors undergoing sarcomatous change, and three were mixed tumors undergoing endotheliomatous change. Ten of these patients came with recurring growths, or they had recurrences following operations. Twenty-seven of the forty-one patients have recently been heard from: twenty-four of them state that they are perfectly well, and three of them say they have a local recurrence. Two of the three had predominating sarcomatous elements at the time of operation; one, a man 70 years of age, had had a tumor for thirty years with a history of rapid growth during the last three months. This patient died, evidently of metastasis.

Judd claims that the endeavor to preserve all of the fibers of the seventh nerve may be said to be the cause of most of the recurrences following the removal of mixed tumors of the parotid. If we could deliberately excise the tumor with as much of the parotid as we deemed wise, there would be no recurrences in the early cases, but as long as these tumors are not severely malignant in the beginning it is a question whether we are justified in sacrificing the facial nerve. In the encapsulated cases it has been Judd's custom to excise completely the tumor with the capsule, and to pack the entire wound with gauze saturated with Harrington's solution, in order that the raw surfaces may be seared to prevent the grafting of any cells. It was not found necessary to remove any of the lymphatics if the growth was well encapsulated, and it was not observed that these tumors involve the lymphatics until very late in their development. On the other hand, if the disease is extending into the parotid and into the surrounding lymphatics, the parotid should be excised entirely, and with it the adjoining lymphatics. In a few of Judd's cases the tumor was very large, pressing into the mouth and throat, and causing considerable dysphagia and interference in swallowing. In these cases, in addition to the removal of the parotid, it was necessary to sacrifice the external artery and the internal jugular vein.

Kentucky Medical Journal, Bowling Green

June 1

12 Is the Doctor's Life Worth Living? R. B. Cassady, LaGrange.
13 A Few of the More Common Skin Diseases. J. L. Atkinson, Campbellsville.
14 The Scientific Significance of Dreams. C. Pope, Louisville.
15 The Border Land. M. Board, Louisville.
16 Meningeal and Cerebral Complications Involving the Silent Area of the Brain (Anterior Frontal Cerebral Lobes) as Result of Ethmoidal, Sphenoidal and Frontal Sinus Disease. J. A. Stucky, Lexington.
17 A Plea for Increased Efficiency and Greater Optimism in Postoperative Treatment. W. E. Senour, Bellevue.
18 Antiseptics in Typhoid. J. L. Quisenberry, Worthington.
19 Treatment of Typhoid. R. S. Plumlee, Glasgow.
20 Bronchitis. O. W. Brown, Lenoxburg.
21 Acute Osteomyelitis. J. A. Caldwell, Peach Grove.
22 Treatment of Tuberculosis. J. N. Bailey, Fredonia.
23 Care and Supervision of Abnormal Presentations in Labor. W. F. Grubbs, Hazel.
24 Treatment of Post-Puerperal Eclampsia. G. W. Payne, Bardwell.
25 Gleanings from Twenty-Five Years' Experience in Obstetric Practice. G. G. Thornton, Lebanon.
26 Forceps Delivery. A. E. Threlkeld, Wheatley.
27 [illegible]nter, Hazel Green.
28 [illegible] Corinth.
29 [illegible] C. Garr, Lexington.

Journal of Nervous and Mental Diseases, New York

June

30 Diagnostic Value of Dyschromatopsia in Nervous Diseases. C. D. Camp, Ann Arbor, Mich.
31 *Neurologic Serology. D. M. Kaplan, New York.
32 *Bromid Intolerance and Bromid Poisoning. L. Casamajor, New York.

31. **Neurologic Serology.**—Kaplan's observations have convinced him that affections of the brain and cord leave definite impressions on the cerebrospinal fluid. Therapy and the curative power of the organism have been a definite influence on the prevalence of the pathologic constituents in the cerebrospinal fluid. The absence of any findings in the fluid in patients not treated, strongly argues against the involvement of the cerebrospinal system. The differentiation between the acute infective meningeal involvements and the chronic degenerative forms can be decided by a study of the cerebrospinal fluid. A history of syphilis and a positive Wassermann reaction do not signify in the presence of nervous manifestations, that the brain or cord are involved by a luetic process in the face of a negative cerebrospinal fluid analysis. As a therapeutic guide, the gradual disappearance of previously existing pathologic ingredients is an important aid in gauging therapeutic progress. Therapy affects first, the globulin content, then the serum Wassermann, third, the cerebrospinal fluid Wassermann, and lastly, the pleocytosis. The appearance of the Fehling's reducing substance, and the diminution in the inflammatory violet-color reaction take place with the disappearance of the polynuclear cells, although the lymphocytes may still prevail.

32. **Bromid Intolerance and Bromid Poisoning.**—The moral to be drawn from Casamajor's paper is the old plea for conservatism in the use of bromin salts in all conditions. Their toxicity, especially in view of the delirious states they can occasion, is far too frequently overlooked. Casamajor says that no weak or anemic patient should receive even small doses of bromids without a full realization of the danger by the physician. In such individuals the use of the bromids as local sedatives is contra-indicated. Once having prescribed bromids to these patients the dangers may be obviated by a careful watching for the early signs of poisoning, especially the thick-tongued speech, bromic breath and mental dulness. As soon as one of these symptoms is observed the drug should be discontinued, and large doses of sodium chlorid given to replace the bromid by the normal chlorid, and this, with vigorous eliminative treatment, should prevent an entirely unnecessary drug intoxication.

American Medicine, New York

May

33 Height and Weight in Relation to Life Insurance. G. F. Little, New York.
34 Obliteration of Craving for Narcotics. C. A. Rosenwasser, New York.
35 Diagnosis of Chronic Appendicitis. S. Floersheim, New York.
36 Treatment of Diabetes Mellitus. W. C. Schoenijahn, Brooklyn.
37 Hemorrhoids in Children. M. L. Bodkin, Brooklyn.
38 Bismuth Paste in Hydatid Cyst of Liver. L. M. Alofsin, New York.
39 Vasomotor Conditions in Surgery W. C. Abbott, Chicago.
40 Mastoiditis Without Apparent Involvement of the Middle Ear. C. E. Perkins, New York.
41 Auto-Intoxication and Chloroform Poisoning. J. M. Lynch, New York.

Journal of the Missouri State Medical Association, St. Louis

June

42 Roentgen Rays in Diagnosis of Tabetic Osteo-Arthropathies. R. D. Carman, St. Louis.
43 *Modern Medicine and Medical Education. G. Dock, St. Louis.
44 *Id. J. Howland, St. Louis.
45 Lanfranchi. F. J. Lutz, St. Louis.

43 and 44. **Modern Medicine and Medical Education.**—This is an address delivered before a business men's club and deals with many problems in medicine in which laymen are interested and on which they need enlightenment.

American Journal of Urology, New York

May

46 Calculus in Bladder and Its Management, with Special Consideration of Litholapaxy. F. Kreissl, Chicago.
47 Chronic Gonorrheal Prostatitis. R. B. Anderson, Brooklyn

Long Island Medical Journal, Brooklyn

May

48 *Central Origin of Diphtheritic Paralysis. A. Spingarn, Brooklyn.
49 Surgery of Peripheral Nerves. A. T. Bristow.
50 *Extensive Denudation of Pneumogastric Nerve. L. S. Pilcher, Brooklyn.

June

51 The German Hospital of Brooklyn. W. Browning, Brooklyn.
52 Metatarsalgia. W. Truslow, Brooklyn.
53 Torsion of Pregnant Uterus. R. S. Fowler, Brooklyn.

48. **Central Origin of Diphtheritic Paralysis.**—As a further contribution to the abundant evidence that has already been accumulated in support of the hypothesis that diphtheritic paralysis, in most instances, is the result of central lesions, Spingarn reports two cases presenting points of unusual interest. The history of the first case differs in few respects from that of other fatal cases of diphtheritic paralysis, in most of which the cause of death is attributed to heart failure resulting from myocarditis, or from a neuritis of the pneumogastric nerve. That myocarditis was not responsible for the fatal issue in this instance may be concluded from the sudden onset of the cardiac symptoms in connection with other manifestations of paralysis, particularly the close association of the embarrassment of the heart and the muscles of respiration. The important points in the chronology of this case are the occurrence of paralysis of the soft palate nineteen days after the onset of the diphtheria, transitory difficulty of breathing eight days later, apparently due to transitory paralysis of the diaphragm or intercostals, and then in three days the onset of grave disturbance of respiratory innervation, and of failure of the heart's action. The association of the two last, Spingarn regards as more than a mere coincidence, and points to the vagus as the common cause of the two conditions. Furthermore, he regards the pathologic changes in this nerve as secondary to more fundamental changes in the medulla oblongata, changes either toxic or inflammatory. The simultaneous onset of vomiting, dyspnea, tachycardia with cardiac arrhythmia, apparently completes the chain of circumstantial evidence incriminating the medulla as the primary seat of disorder.

This complex of symptoms bears a striking resemblance to that which occurs in bulbar paralysis, particularly to that form occurring in the course of acute anterior poliomyelitis, of which there have been so many recent examples. The presence of temperature and the retraction of the head furnish additional evidence of the existence of some irritative condition at the base of the brain. There were several points of striking interest in connection with the second case. The diagnosis was obviously one of diphtheritic paralysis; yet, when the patient presented himself at the clinic there were being treated at the time a number of cases of poliomyelitis, which was then epidemic. Moreover, a surprisingly large proportion of the cases were of the encephalitic and bulbar or pontine types of poliomyelitis, in the former of which cerebral symptoms existed alone or in association with spinal involvement, and in the latter of which facial, ocular and hypoglossal paralysis existed alone or with paralysis of the extremities. This case also suggested the ataxic form of poliomyelitis, symptoms of which closely simulate those of Friedreich's ataxia. The later developments in this case, with the tendency to progressive increase in the paralysis, particularly its tendency to ascend, and the final fatal outcome, apparently from involvement of the heart and respiratory centers, gave this case a still more striking resemblance to the ascending form of poliomyelitis, with symptoms like those of Landry's ascending paralysis, in which the respiratory centers are involved. The diagnosis of this case was based on the occurrence of diphtheria three weeks before the onset of the paralytic symptoms, the absence of recent acute febrile symptoms that mark the invasion of poliomyelitis, the characteristic fluctuating and scattered distribution of the paralyses, and finally, the occurrence of sudden death from cardiac and respiratory paralysis.

50. **Extensive Denudation of Pneumogastric Nerve.**—Pilcher calls attention to possibilities of disaster from the interference with the pneumogastric nerve in the course of operations for the removal of neck tumors, even though the continuity of the nerve itself is not compromised. A man, 69 years of age, who had been subjected to an excision of a portion of the left side of the tongue for what was considered a cancerous ulcer, had a recurrence sixteen months later with a deep-seated, ill-defined, hard mass occupying the left submaxillary region. The general condition of the patient was still good.

At operation all the deeper tissues of the neck were found involved in the mass of carcinoma. In the course of the dissection the sterno-cleido-mastoid, diagastric, stylohyoid and stylothyroid muscles were cut away, and the external artery and all its branches were extirpated. The entire internal jugular vein, already thrombosed where it was involved in the tumor, was removed. Sections of the hypoglossal and spinal accessory laryngeal nerves were cut out. The glossopharyngeal nerve was exposed and necessarily subjected to traction and pressure in the course of the removal of overlying tissue. It was possible to isolate and preserve the pneumogastric nerve, and the internal carotid artery. The sheath of the pneumogastric nerve was involved in the carcinomatous process, and was therefore cleanly dissected away from the trunk proper of the nerve, which did not seem to be involved. The great sympathetic plexus was also exposed in the bottom of the wound, but was not injured.

The patient, though somewhat shocked at the end of the operation, for several hours remained in satisfactory condition; at the end of five hours, however, without previous dyspnea or symptoms of respiratory embarrassment, he suddenly developed respiratory failure, from which no efforts at artificial respiration were sufficient to revive him. The apnea was definite and the patient died.

Searching for the cause of death, Pilcher directs attention to the following: The one peculiar element which first engages attention in this case is the condition of the trunk of the pneumogastric nerve, which for some 4 inches of its course had been deprived of its sheath. The conditions present were practically those of an abrasion of the nerve extending over the area described. The immediate result of this traumatism would be a certain degree of active congestion of the nerve capillaries and swelling of the trunk from infiltration of the interfibrillar spaces with serum. These results of traumatic reaction require some time for their complete development, but they would have arrived at a considerable degree of development by the end of four or five hours. It has seemed to Pilcher, therefore, as the most reasonable explanation of the occurrences in this particular case, that the condition of the pneumogastric, progressively developing traumatic congestion and infiltration over so considerable a portion of its extent, may have been an important source of the inhibiting influence which was exercised on the respiratory center, with which the pneumogastric is so intimately related.

Maryland Medical Journal, Baltimore

June

54 *Foreign Body Removed from Right Bronchus by Upper Bronchoscopy. New Method of Passing Bronchoscope. R. H. Johnston, Baltimore.
55 Salvarsan in Diseases of the Eye. H. Friedenwald, Baltimore.
56 *Review of Tonsil Question. H. E. Peterman.

54. **Foreign Body from Right Bronchus.**—Johnston refers briefly to a new method of passing the bronchoscope, which has made bronchoscopy much easier for him. The difficult stage of bronchoscopy is in passing the tube between the vocal cords into the trachea. The vocal cords once passed, it requires no special skill to push the tube further down. Johnston conceived the idea of placing the patient's head straight on the table and passing the old Jackson laryngoscope down between the incisor teeth. The epiglottis was pulled up and a clear view of the larynx obtained. In his earlier work, he placed a pillow under the head to secure flexion. Further observation has convinced him that flexion is not necessary; a straight position of the head, held firmly by an assistant, makes direct laryngoscopy easy. After working with the straight method of laryngoscopy for some time, it occurred to Johnston that it might be feasible to pass the bronchoscope in this position, thus eliminating the strain on the wrist and the force required to overcome the tense muscles in the extended position. It has worked admirably and has proved easy. The method of procedure is as follows: The patient is placed on the table with the head in the normal straight position. A general anesthetic is administered. The modified direct laryngoscope is passed straight down between the incisor teeth, and when the epiglottis comes into view the spatula end of the instrument is hooked behind it. By making slight pressure on the upper teeth the epiglottis and base of the tongue are pulled up and the larynx opened for inspection. A weak solution of cocain is now applied to the larynx through the tube to prevent reflexes. With the laryngoscope in position, the bronchoscope is passed through it to the vocal cords. With the eye fixed on the end of the smaller tube, a slight twisting motion is used, which sends the bronchoscope between the cords. The breathing is now distinctly tubal in character. The laryngoscope is removed and the head of the patient gently lowered over the end of the table. The examination is now proceeded with as in the extended position. In the above procedure the operator stands to the left of the patient and uses the laryngoscope in the left hand. Both direct laryngoscopy and bronchoscopy are easier because the muscles are relaxed.

56. Abstracted in The Journal, May 20, 1911, p. 1502.

The Laryngoscope, St. Louis

May

57 Practical Value of Lip-Reading. M. A. Goldstein, St. Louis.
58 Acute and Chronic Inflammation of Maxillary Sinus. Recognition and Treatment. T. C. Worthington, Baltimore.
59 Chronic Purulent Maxillary Sinusitis of Dental Origin. C. J. Koenig, Paris, France.
60 Postoperative Double Frontal Sinusitis. Extensive Osteoma of Frontal and Nasal Bones and Orbital Fossæ, with Superimposed Lipoma—Causal Factor, Frambesia (Yaws). C. D. Van Wagenen, New York.
61 Myxo-Fibro-Sarcoma of Nose and Nasopharynx, Removed by Bodine's Modification of the Boeckel Operation. D. S. Dougherty, New York.
62 Exostosis of the Septum. M. Metzenbaum, Cleveland.
63 Yankauer Operation in Chronic Middle-Ear Suppuration. H. Hays, New York.
64 Analysis of Weber Test in One Hundred Cases. R. Sonnenschein, Chicago.

Journal of the Medical Society of New Jersey, Orange

June

65 Serum Treatment of Epidemic Cerebrospinal Meningitis. F. S. Hammond, Trenton.
66 *New Treatment for Fractured Patella. C. H. Finke, Jersey City.
67 Relations of Vaccine Therapy to Infections and to Serum Treatment. G. H. Dexter and J. D. Smith, Brooklyn.
68 Glimpses of Medical History. S. E. Robertson, Newark.
69 Coffee. H. Chavanne, Salem.

66. **New Treatment for Fractured Patella.**—When using Finke's method no attempt should be made to reduce the fragments until nearly all the fluid is removed from the knee-joint. Reduction is accomplished by immobilization of the knee-joint, by fixation of the lower fragment and by traction on and fixation of the upper fragment. The leg should be extended completely and the knee immobilized on a posterior splint. Two strips of adhesive plaster, 2 inches wide, are then applied to the outer and inner part of the thigh extending downward from its upper third to about parallel with the upper border of the patella; here they leave the thigh still running downward for about 2 inches; this extension is inverted and turned into loops, these loops hanging free from the limb on both sides. These longitudinal strips are reenforced by the thigh being strapped transversely with adhesive plaster, from its upper third down to the upper margin of the upper fragment of the patella, against which it fits snugly. The posterior splint, which is properly padded, extends downward from the gluteal fold to within a few inches of the os calcis. The lower fragment of the patella is then fixed temporarily by a gauze bandage applied against its lower border. The lower limb having been covered with a white stocking, a plaster-of-Paris bandage is applied so as to set snugly against the lower border of the lower fragment, fixing it permanently and extending downward, covering both limb and splint. The thigh is then covered with gauze; over this the plaster-of-Paris bandage is then applied, which covers both thigh and splint down to the upper margin of the upper fragment of the patella.

Care should be taken when applying upper and lower sections of plaster at the patella, that the upper section is carried down lower and the lower section is carried up higher posteriorly. This causes the plaster bandages to lap at right angles posteriorly, which gives them greater leverage, and by thickening the edges at the patella, forms a fenestra or window where frequent observations and auxiliary approximation of fragments by gauze packing can be made. Attached to the loops of adhesive plaster on each side of the knee is a half-inch rubber tubing, which, somewhat taut, extends downward to the foot, passing under the arch, unites with its fellow from the opposite side. This acts like a Bucks extension, pulling down the quadriceps and keeping the fragments in apposition, the upper plaster cast acting like a cuff. The object of the rubber tubing is to regulate strength of extension, thereby obviating the necessity for rest in bed with extension by weight and pulley. To keep the fragments from tilting upward, a pad is placed over the fractured patella and a roller bandage is applied. The patient is then given a pair of crutches and allowed to go about. At the expiration of eight or ten weeks, passive or active motion at the knee-joint may cautiously be allowed. The great advantage of the foregoing method is due to the posterior splint which keeps the limb fully extended, the lower plaster-of-Paris bandage fixes the lower fragment; the rubber tubing, which is attached to the loops of adhesive plaster from above, acting like a Buck's extension, pulling down the quadriceps, the fenestra or window, where frequent observations can be made; and last, and above all, the patient is allowed to get up and go about on crutches during his convalescence, and is not confined to his bed for eight or ten weeks.

Ophthalmic Record, Chicago

May

70 Treatment of Phlyctenular Conjunctivitis. J. R. Hicks, New Brighton, N. Y.
71 Leech Bite of the Cornea. E. B. Coburn, New York.
72 Trachoma Bodies from Non-Trachomatous Eyes. H. McKee, Montreal.
73 Electric Injuries of the Eye. A. C. Sautter, Philadelphia.
74 A Case of the Stinger of a Bee Embedded in the Upper Eyelid for Three Months. O. Orendorff, Canon City, Colo.
75 Necessity for Extra Care in the Prognosis and Treatment of Diabetic Cataract. H. Gifford, Omaha, Neb.
76 A Case of Bilateral Choked Disc Produced by a Cyst at the Cerebello-Pontile Angle. A. Murray, Chicago.

Mississippi Medical Monthly, Vicksburg

June

77 *Intestinal Parasites of North Mississippi. L. Kohlheim, Guntown.
78 *Blennorrhea; Syphilitic Keratitis. I. W. Cooper, Newton.
79 *A Forgotten Use of Calomel. S. Myers, Vicksburg.
80 *Oysters and Typhoid. H. S. Capps, Gulfport.

77, 78 and 79. Abstracted in The Journal, May 20, 1911, p. 1503.

80. **Oysters and Typhoid.**—The examination of three samples of oysters by Capps proved that each set of oysters contained the colon bacilli, the normal bacteria of the intestinal tract of men and many animals. The presence of typhoid bacilli was not demonstrated, although many tests were made for this purpose. Capps concludes that oysters taken from deep water, or from a considerable distance from shore or any infected point, are reasonably safe, provided they are handled carefully and are fresh. On the other hand, those taken from shallow water near sewers or other infected points are probably contaminated and are unfit for human food, and their use should be prohibited by law.

Buffalo Medical Journal

June

81 Surgical Treatment of Exophthalmic Goiter. M. B. Tinker, Ithaca, N. Y.
82 Differential Diagnosis of Intra-Uterine Pregnancy Based on Clinical Observations. L. Schroeter, Buffalo, N. Y.

American Journal of Surgery, Philadelphia

June

83 *Surgical Treatment of Cleft Palate. J. H. Jacobson, Toledo, Ohio.
84 *Panhysterocolpectomy. A. E. Gallant, New York.
85 Finger Infections. J. H. Long, Brooklyn.
86 Primary Suture in Simple Mastoidectomy. H. Hays, New York.
87 *Transplantation of Epithelioma. R. T. Morris, New York.
88 *Dilatation of Stomach. E. Lanphear, St. Louis.
89 Postoperative Dilatation of Stomach in Children. W. A. Sherwood, Brooklyn.
90 Congenital Hypomastia with Acquired Hypertrophy of the Opposite Breast. H. Neuhof, New York.
91 Inguinal Hernia in a Child Six Weeks Old, Containing Tube, Ovary and Horn of Uterus. A. S. Morrow, New York.
92 *Extraction of Foreign Bodies from the Eye by Corneal Curet. J. M. Wheeler, New York.

83. **Surgical Treatment of Cleft Palate.**—Jacobson again emphasizes the importance of the early operation; the fact that a higher percentage of successful closures is obtainable by the Lane methods than by any other; the advisability of a careful preliminary preparation of the patient, and the great importance of postoperative training in articulation and phonation.

84. **Panhysterocolpectomy.**—The indications for colpectomy, according to Gallant, are: In a woman suffering from cystocele, with or without prolapse of the uterus or rectum, either before or after hysterectomy, especially when other operations have failed to secure a permanent cure, provided she has passed the child-bearing period or is otherwise debarred from child-bearing, if her husband is willing to forego sexual relations, or if she is usually "frigid," the Edebohls-Martin operation, viz., complete excision of the vaginal mucous membrane, with the uterus, if present, and columnization of the vaginal tube, is a safe and sane operation which will ensure an absolute and permanent cure of the prolapsus at a minimum of danger and loss of time, with a maximum of security against recurrence. Practically the only contra-indications are the child-bearing, and in married women, at least, the loss of sexual relations.

87. **Transplantation of Epithelioma.**—This case presents two points of special interest. Fifteen years ago, a woman 44 years of age was sent to Morris with tuberculosis of the peritoneum, and was operated on. The peritoneum was thickly studded with masses of miliary tubercles, and a small amount of free fluid was present. She made a complete recovery from the peritoneal tuberculosis. Last year she returned with a watery sanguineous discharge from the vagina, and erosion of the cervix uteri, a segment of which, removed for examination, showed epithelioma. The cervix was curetted, but not cauterized, and a panhysterectomy was done by way of the abdominal route, in order that at the same time a weak point in the abdominal wall at the site of the old drain opening might be repaired. It is probable that the cervix touched the abdomen while being removed, for five months later the patient developed a mass at the lower angle of the wound. Morris removed the mass, and on microscopic examination it proved to be epithelioma. Here is, he says, a definite case showing the need of cauterization of the cervix, as well as curetting, in order to avoid such accidents of direct transplantation.

88. **Dilatation of Stomach.**—This case is unusual in the following points: 1. A remarkable degree of chronic dilatation of the stomach due to an ulcer of the duodenum. 2. Complete separation of an 8-inch incision on the thirteenth day after operation. 3. Recovery after the stomach and a loop of intestine had lain eight hours outside the abdominal cavity.

92. For a description of Wheeler's instrument for removing foreign bodies from the cornea, see Wheeler: A Corneal Curette; The Journal, March 22, 1909, p. 1666.

West Virginia Medical Journal, Wheeling

June

93 Treatment of Recently Insane. J. R. Bloss, Huntington.
94 Physician's Responsibilities in Relation to Defective Classes. G. H. Benton, Chester.
95 [illegible] the Nez Perces Indians of Idaho. J. N. [illegible] ai, Idaho.
96 [illegible] of Hypertrophied Prostate. J. E. Can-[illegible]
97 [illegible] licine. M. M. Hoff, Philippi.
98 Herpes Zoster Ophthalmicus Causing Bilateral Ptosis. C. F. Mahood, Alderson.

California State Journal of Medicine, San Francisco

June

99 *A New Sign (Pastia) in Scarlet Fever. G. H. Taubles, San Francisco.
100 The Cell in Modern Medicine. H. Tyler, Redlands.
101 *Intestinal Hemorrhage in Hernia. R. Brown, Santa Barbara.
102 Skin as Influenced by the Thyroid. H. E. Alderson, San Francisco.
103 Diagnosis and Surgical Treatment of Tuberculosis of Kidney. E. C. Moore, Los Angeles.
104 Relation Between the Tonsils and Tubercle Bacilli. C. C. Warden, Los Angeles.

99. **A New Sign in Scarlet Fever.**—Taubles examined a number of cases of various infectious diseases with a view to confirming Pastia's observation. The sign referred to by Pastia was described as consisting in an intense continuous, linear

pigmentation of the skin folds across the anterior surface of the elbow, varying in color from rose red to dregs of wine, and even appearing ecchymotic. These lines vary in number from one to four, and the eruption on the skin lying between them, when they are multiple, resembles that on the rest of the skin. The time of appearance of this sign is simultaneous with the appearance of the rash. It persists not only during the eruptive period, but for a varying time afterward, even until desquamation is complete. Its occurrence in the skin folds of the axilla has been observed, but is neither so constant nor as permanent in this region as in the arm.

Taubles' cases seem to confirm that this reddening of the skin folds is not present during, or due to, a mere elevation of temperature of shorter or longer duration. In eighteen cases of scarlet fever seen almost daily from the onset until completion of the desquamation, every one showed the sign. Of these cases, four presented, instead of the typical rash, a mottled blush over the chest and rendered the immediate diagnosis, aside from the sign, uncertain until the typical rash appeared. In the majority of cases (thirteen) the sign lasted for from one week to three weeks after the rash had disappeared. Three showed it in the elbows only. In the others it was visible in other flexures. In scarlet fever Taubles has not seen the sign as darkly red as Pastia describes it, a claret color being the darkest. In the measles cases it was very dark, however. In most of the cases which were seen on the first day of eruption (five), the sign was not as deep in color as on the succeeding day when the eruption had become more pronounced in color. No cases of the series were seen before the eruption took place. In addition to the elbow folds, the skin of the folds of the groin, nates, popliteal space, axilla, wrists and base of the neck were observed. While the sign was recognized in these situations in many of the cases, it was not so pronounced nor so constant as in the elbow, and always disappeared sooner than the elbow sign. Taubles is convinced that the sign really exists as a part of the picture of scarlet fever, both during and, in the majority of cases, after the eruption has manifested itself.

101. **Intestinal Hemorrhage in Hernia.**—Hemorrhage from the stomach or rectum in a patient who has had a hernia for some considerable period of time with a history of several attacks of pain in the hernial tumefaction, no matter how slight, Brown says, justifies the consideration of the hernia and its environs as of major importance in a differential analysis as to the source of the blood. During operation, if the conditions within the sac do not satisfy as to the origin of bleeding, and the adjacent intestines cannot readily be inspected through the hernia incision, an immediate exploration celiotomy is indicated.

Journal of Oklahoma State Medical Association, Muskogee

June

105 Medical Organization and Medical Legislation. D. A. Myers, Lawton.
106 Conservation of Child Life as Economic Factor to State. W. G. Little, Okmulgee.
107 Progress of Medicine. J. H. Scott, Shawnee.
108 Necessary Points for a Progressive Physician. B. W. Freer, Nowata.
109 Laryngeal Tuberculosis. M. K. Thompson, Muskogee.
110 Pellagra. F. B. Ervin, Norman.

Western Medical Review, Omaha, Neb.

June

111 The Future of Medicine. H. P. Lord, Omaha, Neb.
112 Prevalent Professional Psychasthenia in Relation to Psychotherapy. H. S. Munroe, Omaha, Neb.

Medical Record, New York

June 17

113 New Operating Pavilion for Thoracic Surgery at German Hospital, New York. W. Meyer, New York.
114 Rational Treatment of Laryngeal Tuberculosis. S. Von Ruck, Asheville, N. C.
115 *Reflex Contraction of Muscles Associated with Pulmonary Disease. E. F. Cyriax, London, England.
116 Incontinence of Urine in Women. H. C. Taylor, New York.
117 Criminal Abortion. W. B. Jennings, New York.
118 *Pronounced Case of Splenomyelogenous Leukemia with Autopsy. M. Solomon, Washington, D. C.
119 Etiology of Epidemic Poliomyelitis and Its Possible Relation to Beriberi. O. V. Huffman, Cincinnati.
120 *Trachoma in Cuba. F. M. Fernandez, Havana, Cuba.

June 24

121 *Vaccine Treatment of Typhoid. J. G. Gallison, New York.
122 *Some Observations on Organization of Hospital Staffs. J. A. Blake, New York.
123 *Organization of University Hospital Medical Staff. W. G. Thompson, New York.
124 Case of Addison's Disease. L. Weber, New York.
125 Pennsylvania's Work in Rural Sanitation. H. B. Bashore, West Fairview, Pa.

115. **Reflex Contraction of Muscles and Pulmonary Disease.**—Priority over Pottenger is claimed by Cyriax on the subject of spasm of the chest muscles, particularly on spasm of the intercostals, as a physical sign of disease of the lungs. Pottenger stated in 1909 that so far as he was aware this symptom, except as occurring in pleurisy, had not been hitherto described. In 1903 it was briefly described by Cyriax in a volume entitled "The Elements of Kellgren's Manual Treatment." This work expounded the Ling system of medical gymnastics, with special reference to the modifications and improvements introduced by H. Kellgren.

118. **Splenomyelogenous Leukemia with Autopsy.**—Solomon cites a case of splenomyelogenous leukemia in a man, aged 30, who became insane after a life of steady alcoholism, in whom the blood examination showed the presence of leukemia. The disease came on after the patient had entered the Army and had been sent to the Philippines, where he had severe malaria. The patient while at the Government Hospital for the Insane had delusions and hallucinations. He did not know his own relatives and accused himself and others of serious crimes. He had internal and external hemorrhages of small size, a peculiar pallor, enlarged lymphatic glands, and marked blood changes. Hemoglobin was 30 per cent., the white cells were much increased and there were many myelocytes of all kinds in the blood. The cerebrospinal fluid showed lymphocytes, large mononuclears, polymorphonuclears and macrophages.

120. **Trachoma in Cuba.**—The method employed by Fernandez in the treatment of trachoma is as follows: With a cotton swab immersed in a 10 per cent. cocain solution, the conjunctiva of both lids is bathed to produce anesthesia. One minute later another cotton swab, well soaked with distilled water, is impregnated with powdered sodium salicylate and rubbed with some strength against the granulations in front and behind the cul-de-sac. The lids are, of course, very well averted. In some cases the drug causes some burning; in others this is intense, but in all cases the burning sensation disappears in a short time. For two or three days it can be seen how the conjunctiva becomes more and more smooth, the granulations disappear by reabsorption and by destruction; friction used destroys many and increases a limited inflammation provoked by the salicylate. The treatment is repeated every three or four days, and more than half of the cases received five or six applications. Of nearly 400 cases in which this treatment was employed, Fernandez has failed in less than ten cases.

121. **Vaccine Treatment of Typhoid.**—Callison has treated with vaccines all of his typhoid patients. Beginning with the small dose of 25,000,000 he has increased this to 500,000,000 at intervals of two to three days. In prophylactic vaccination three injections are given each at an interval of ten days. Antibodies begin to develop on the fifth to the tenth day; they are bacteriolysins, opsonins and agglutinins. There is an incubation period between the injection and the beginning of formation of antibodies, and then the amount of these bodies rises for twenty to twenty-five days, after which it gradually falls during a period of one year. In an attack of typhoid there is a rise of temperature for eight or ten days until the bacillus may be demonstrated in the blood. Then there is a period of even high temperature and the Widal reaction becomes evident in smaller dilutions, followed by a gradual decline. This is to be compared to the similar rise of antibodies in vaccination. Recovery from typhoid and the development of immunity are brought about by a similar mechanism. Thus one should expect little effect from the vaccines in the first eight or ten days; then the antibodies natural to the disease and those artificially developed combine to cause improvement of the symptoms. The author gives an account of the systematic treatment of typhoid by vaccines as reported by various authors, and reports twenty-three of his cases.

Three of these are excluded because not treated in the proper stage of the disease. Among the twenty remaining cases there were three deaths and one relapse. There were three failures, all of them becoming septic in their temperature curve. The deaths were from rare complications; femoral phlebitis, lobar pneumonia and meningococcus septicemia. There were hemorrhages in three cases. Other complications were rare. The patients seemed better, showed a better appearance and were more comfortable, having better appetite and sleep. In 214 collected cases the mortality was 5.6 per cent.; relapses occurred in 5.1 per cent. The vaccine does not seem to have done harm. The inoculations were subcutaneous. Almost universally where used the treatment is considered to have done good. It lessens complications and relapses.

122. **Organization of Hospital Staffs.**—A true university hospital, Blake holds, should contain branches for all sorts of services and laboratories. It should be managed by a board of men versed in the business affairs of a hospital, who should administer it prudently and with economy. Electioneering for officers should be replaced by nominations by the university. The hospital staff should include physicians and surgeons attending the patients, and men engaged in the scientific work of the laboratory. Each laboratory department must be an individual, and yet be correlated with every other and with the clinical and teaching departments. Each clinical division should be a complete unit, and do all its own diagnostic and laboratory work, giving only the more complicated examinations to the special laboratory division. There should be cross-representation between and among all of them. A surgical division would include ward and operating room, laboratory for surgical pathology, and laboratory for experimental surgery. The main bond between the surgical and laboratory divisions is the laboratory of surgical pathology. The different members and divisions of the hospital staff are carefully described.

123. **Organization of University Hospital Medical Staff.**—Thompson gives an interesting description of the present assignments of the Cornell staff in its work at Bellevue Hospital. The essential features are continuity of service throughout the year; the utilization of student clerks for the benefit of the service; the coordination of the university laboratories with clinical work. There are ninety beds in the service, and 110 others are supervised by the university in connection with this work. A special nurse is employed by the university to assist the student clerks, so that the hospital work is not interfered with by their presence. The student clerks do not idle, because they are supervised by the staff. There is an opportunity to develop close alliance with the university laboratories, which do all the complicated work of examination needed in connection with the hospital wards. This organization follows the method in use for years in the German universities, and is of great value in the instruction of students.

Journal of the Indiana State Medical Association, Fort Wayne

June

126 Rabies. H. R. McKinstray and H. S. Thurston, Indianapolis.
127 Pathology, Symptoms and Treatment of Burns. G. W. Anglin, Warsaw.
128 Diphtheria Antitoxin; Action and Dosage. E. B. Mumford, Indianapolis.
129 Foreign Body in Orbit Discovered by Magnet After Failure by Roentgen Ray. F. A. Morrison, Indianapolis.

Boston Medical and Surgical Journal

June 22

130 *Results of Treatment of Two Thousand Cases of Miscarriage at Boston City Hospital. J. T. Williams and E. B. Young, Boston.
131 *Relation Between Laboratory Work and Clinical Work. R. C. Cabot, Boston.
132 Resumé of the History of Cesarean Section. E. T. Gray, Boston.
133 Indications for Cesarean Section. M. F. Hobart, Boston.
134 Technic of Cesarean Section. M. A. Smith, Boston.
135 Immediate Results of Cesarean Section. J. T. Williams, Boston.
136 End Results of Cesarean Section. N. R. Mason, Boston.
137 *Further Experience with Benzidin Test for Occult Blood in Diseases of the Digestive Organs. F. W. White, Boston.

130. **Treatment in Two Thousand Cases of Miscarriage at Boston City Hospital.**—In over half the cases (1,333) studied by Young and Williams, the miscarriage was incomplete; in only 199 cases was it complete; infected at the beginning in 111; infected afterward, 135. Excluding the cases in which infection determined the necessity for interference, there are 1,683 cases in which the ability of the uterus to empty itself spontaneously could be studied. The authors found that about 13.2 per cent. of all miscarriages may be expected to complete themselves spontaneously; the likelihood of a miscarriage to be completed without interference increases in direct proportion to the duration of pregnancy. When it becomes necessary to use artificial means to complete the miscarriage, the finger followed by the curet in later miscarriages, and of the curet alone in the earlier months of pregnancy, has given uniformly satisfactory results at the Boston City Hospital. Experience has shown that where the cervix is extremely rigid it is better to introduce the curet and break up the fetus and placenta and remove them piecemeal than to attempt to dilate the cervix sufficiently to introduce the finger. Packing the vagina and lower segment of the uterus is an unsatisfactory and often unsuccessful method of emptying the uterus. No success whatever was obtained in treating incomplete miscarriages in this way. Packing is, however, of great value in two classes of cases. First, in exsanguinated patients, to stop the hemorrhage and give the woman a chance to recover somewhat from the loss of blood before emptying the uterus. Second, when the cervix is very rigid, a tight cervical pack for twenty-four hours will soften it so that dilatation may be attempted with safety. The results of artificial methods are as good, but not better than where Nature has succeeded in emptying the uterus. Artificial methods are necessary in a majority of cases, however, simply because Nature has failed. In infected cases the essential thing is to get rid of the infectious material by emptying the uterus, the particular method employed making little difference. The later in pregnancy miscarriage occurs the smaller the liability to become infected, but the greater the likelihood of developing grave septic complications if infection does take place. The mortality is practically the same at all periods of pregnancy. Induced abortions have a greater mortality than accidental. The mortality of patients admitted to the hospital after criminal abortions was 10 per cent.

131. **Laboratory Work and Clinical Work.**—The essential difference between clinical work and laboratory work, Cabot says, is not in the technical methods employed, nor in the degree of their accuracy, nor in the methods of reasoning used. The essential difference consists in the predominance of psychical elements among the data used in the wards and in their elimination in the laboratory. The clinician cannot safely utilize at the bedside the results of laboratory tests which he knows only by reading. He should familiarize himself with these tests in the laboratory, in order to understand the sources of error and the limits of reliability. No laboratory worker should remain out of touch with the clinical aspects of the cases which furnish him his material. In the absence of any single dominating personality as an integrating factor in the hospital system, Cabot says the best available substitute seems to be combined ward visits in which the pathologist, surgeon, physician, chemist and physiologist work together for the increase of their practical and scientific fruitfulness. The evils of specialism may be thus in a measure neutralized and its benefits enjoyed.

137. **Benzidin Test for Occult Blood.**—Blood tests, White believes, are a very great help in clinical diagnosis, and it is his opinion that the Schlesinger and Holtz benzidin test is the best one to use, on account of its simplicity, clearness and degree of delicacy.

Southern Medical Journal, Nashville

June

138 Prevention and Cure of Disease. W. H. Blake, Sheffield, Ala.
139 Organization. H. A. Moody, Mobile, Ala.
140 *Treatment of Heart and Kidney Diseases. J. B. Guthrie, New Orleans.
141 Salvarsan in Syphilis. R. H. Von Ezdorf and J. O. Rush, Mobile, Ala.
142 *End Results of Surgical Operations on Nervous Women. S. T. Rucker, Memphis, Tenn.
143 *Operating in Inguinal Hernia. J. Smyth, New Orleans.
144 Diseases Produced by the Bacillus Coli Communis in Intestines. F. B. Turck, Chicago.

145 Dermatitis Factitia. J. M. King, Nashville.
146 Operation of Turbinectomy and Method of Packing. G E. Vaughan, Clarksville, Tenn.
147 Drinking Water with Meals. G. M. Niles, Atlanta ,Ga.
148 Ethyl Chlorid Anesthesia in Eye, Ear, Nose and Throat Work. L. Levy, Nashville.

140, 142 and 143. Abstracted in THE JOURNAL, Dec. 3, 1910, pp. 2004, 2005 and 2006.

Colorado Medicine, Denver

June

149 Possible Explanation of Etiologic Relation Between Certain Intra-Abdominal and Pelvic Diseases. E. Hadley, Telluride.
150 Recent Experimental Work on Etiology of Malignant Growths. F. W. Bancroft, Denver.
151 Observations in Gall-Bladder Diseases. J. G. Hughes, Greeley.
152 Case of Carcinoma of Uterus Complicated by Pregnancy. O. M. Shere, Denver.
153 Etiology of Pelvic Inflammations. F. C. Buchtel, Denver.
154 Modus Operandi of the Acquisition of Gonorrhea by the Male and the Rationale of Its Prevention. W. M. Spitzer, Denver.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 10

1 Preventive Medicine. Sir J. Barr.
2 *Importance of Pneumonia as a Cause of Death. F. M. Pope.
3 *Features of Aortic Regurgitation in Young Subjects. J. M. Clarke.
4 *Blood-Pressure in Mental Disorders. S. G. Longworth.
5 Interpretation and Significance of Some Irregularities of the Pulse. W. E. Hume.

2. **Pneumonia as a Cause of Death.**—It is pointed out by Pope that pneumonia, far from diminishing in frequency, has now obtained the bad preeminence of actually causing in England more deaths in a year than any other disease (irregular groupings by the registrar-general excepted) and also of having caused in 1907 more than double the deaths it did in 1881. If, he says, this disease had suddenly appeared among us we should have seen a kind of panic seize the public, and leagues would have been founded and large sums of money contributed to combat it; but because it is an old friend we see it calmly accepted as an inevitable concomitant, as well as a mode of termination of life.

3. **Features of Aortic Regurgitation in Young Subjects.**—Of 3,300 cases studied by Clarke, there were 96, or nearly 3 per cent., of cases of aortic valve disease; of these, thirty-three, or 1 per cent., were under 28 years of age. Cases in which there was any possibility of congenital heart disease were excluded. In the thirty-three in-patients under 28, acute rheumatism was the cause in twenty-one, chronic rheumatism in four, and chorea solely in four, a total of twenty-nine, or 87 per cent., in which there was a history or present evidence of some rheumatic manifestation. Two of the thirty-three cases were known to develop infective endocarditis. Of the four cases which owned chorea only as the cause, in two cases there had been eight, and in one, seven attacks. In twenty-seven out of the thirty-three patients other murmurs were present, although as regards signs and symptoms the active lesion predominated the case. In nine of the twenty-seven, the second murmur was an aortic systolic one, which of course does not by any means imply actual aortic stenosis, nor necessarily any serious complication; in the other eighteen there were mitral murmurs.

This difference from the adult is probably again connected with the etiologic factor of rheumatism. In five patients acute pericarditis was observed at some time, either preceding the appearance of the diastolic murmur, or both murmur and pericarditis were present on admission. In those cases in which aortic disease was complicated with mitral regurgitant murmurs, in at least four cases the aortic disease was certainly primary, and later on, as the heart enlarged, mitral regurgitation ensued. In another case a murmur, which was at first mid-diastolic and regarded as an aortic murmur conducted to the apex, became three years later a definite and characteristic presystolic crescendo murmur. In the majority of these cases of combined lesions both valves were affected, as evidenced by murmurs, at the time they first came under observation.

Clarke found that pain in the precordial region is the most frequent and prominent symptom in young subjects. Next in frequency to pain comes palpitation, or rather a violent throbbing of the heart and great vessels. Then comes dyspnea, either persistent on exertion or in the form of attacks in which the patient gasps for breath and has a most distressing sense of being unable to breathe. Attacks of syncope may occur, and in one case this was the cause of death. Certain forms of hemorrhage are not infrequent. Epistaxis is by far the most common. Hemoptysis and hematemesis also occurred; a purpuric rash was observed in another patient, with no evidence of malignant endocarditis. One patient with aortic disease (purely) of eight years' standing, of no great severity and without much enlargement of the heart, had a typical attack of embolism at the age of 20, resulting in right hemiplegia and aphasia. In another patient, aged 18, persistent insomnia and mental symptoms in the form of delusion were the prominent features. Edema, as in cases of heart disease generally in children as compared with adults, is conspicuously absent until the terminal stages of heart failure. In thirteen out of the thirty-three cases albuminuria was present. It did not occur with greater frequency in those patients who had a mitral as well as an aortic lesion. As a rule, the amount of albumin was small, and in eleven cases out of the thirteen it disappeared after a few days' rest in bed. Renal casts were either absent altogether or there were a very few hyaline ones. In the other two patients there was a considerable quantity of albumin, which persisted and was due to coincident renal disease.

Great enlargement of the heart itself is an even more marked feature of aortic disease in children than it is in adults. With this goes in a considerable number (36 per cent. of Clarke's cases) pronounced dilatation of the aorta, causing extension of dulness to each side of the sternum and upward, even as high as the sternal notch. The large vessels share to a less extent in the dilatation. With regard to the heart murmurs, the only point to which Clarke alludes in the aortic diastolic murmur of the young subject is that it is often very long, running almost up to the first sound, and to its loudness or harshness, and its variability. The murmur is more frequently heard at the apex than in adults (Flint's murmur); this was the case in 51.5 per cent. of the patients, and in 34 per cent. it was accompanied by a well-marked diastolic thrill. Not infrequently the murmur at the apex is mid-diastolic. Clarke believes that the dictum is correct that in cases in which Flint's murmur is present, in which there is a history of rheumatism, it is possible to exclude with certainty mitral stenosis. An analysis of these cases shows that in every instance in which the aortic incompetence was concomitant with enlargement (dilatation) of the right heart (from mitral disease) the aortic diastolic murmur was loudly and plainly conducted down and outside the right edge of the sternum; the conduction might be to the apex as well, but that to the sternum was very marked.

4. **Blood-Pressure in Mental Disorders.**—From Longworth's observation of a considerable number of cases it appears that maniacal and melancholic states are not associated with any constant modification of the arterial blood-pressure, or any marked departure in it from the normal. The same applies to other types of mental disorder, with the exception of congenital states in which the pressure tends to be low. The pressure bears some relation to the bodily tone, and increases as age advances; and as melancholia is on the whole a disorder of more advanced years than mania it is only associated with higher manometer readings on this account. Sedative drugs have a slight influence in lowering blood-pressure. The manometer readings bear a fairly close relation to the sclerosis of the vessel wall.

Lancet, London

June 10

6 Progress of Dermatology Since Hunter's Time. J. H. Sequeira.
7 *Rôle of Fat in Etiology and Progress of Cancer. G. T. Beatson.
8 Position of the Present Reform Movement in Anesthetics. F. W. Hewitt.

9 Explosives in Coal Mining and Their Effect on Miners. Sir T. Oliver.
10 *Ten Cases of Operation for Ménière's Disease (Aural Vertigo). R. Lake.
11 Twenty-Two Consecutive Cases of Extra-Uterine Pregnancy Successfully Treated by Operation. J. A. Kynoch.
12 *Prophylactic Inoculation Against Hay Fever. L. Noon.
13 Suppurative Arthritis of Knee-Joint, Due to Influenza Bacillus, Occurring in a Baby Aged Six Months. E. T. Fraser.
14 A Case of Acute Phthisis Following Typhoid. W. Scarisbrick.
15 Endemic Tetany in the Gilgit Valley. R. McCarrison.
16 Recognition of the Public Schools. Sir H. Morris.
17 An Investigation of Certain Substances Used in Coloring Foods. S. Rideal.

7. **Fat in Cancer.**—Beatson's attention has been chiefly directed in cancer to the fat of the human body, as circumstances have led him to think that possibly it is the tissue that plays an important part both in the etiology and certainly in the progress of the disease. Several reasons have weighed with him in adopting this view. For instance, he has frequently observed at post-mortem examinations the very pigmented condition of the fat in some cases of cancer, where it presented a reddish-yellow vermilion appearance, and evidently had in it a coloring matter not usually present in ordinary fat. Again, when operating in cases of mammary cancer, he has often been struck by the oily and fluid state of the circummammary fat. What, however, influenced him most in this matter were the results observed in those cases of oöphorectomy for inoperable mammary cancer in which there had been a complete disappearance of the outward manifestations of the disease after the operation, this disappearance of the signs of the disease being accompanied by improvement in general health, and an increase in the subcutaneous adipose tissue.

Working on this line of thought, it seemed to him that it would be of interest to examine chemically the fat of cancer patients and also of the body before and after puberty, so as to ascertain if any facts could be elicited that would in any way encourage research in this direction, for it seemed to him that if his explanation of the beneficial effects of oöphorectomy in mammary cancer was correct, there might be opened up a successful line of therapeutic action in the treatment of cancer generally. This inquiry was done for Beatson by Dr. W. H. Duncan. The results were as follows: 1. Twenty-two specimens of normal human fat between the ages of 26 and 38 years examined. The iodin values obtained ranged from 60.8 to 64, and the average for the twenty-two was 62.1. 2. In forty-three specimens of fat from patients between the ages of 39 and 68 years examined, the average iodin value obtained was 72.6214. 3. In twelve specimens of normal human fat examined from subjects between the ages of 52 and 65, the average iodin value was 63.981. 4. In three specimens of normal human fat after puberty examined, the iodin value was 61. 5. In five specimens of normal human fat in children under 11 years examined, the average iodin value approximated to 44. 6. In twelve specimens of normal human fat examined from children between the ages of 9 and 11 years, the average iodin value was 44.477. 7. In twelve specimens of normal human fat examined from subjects between the ages of 16 and 19 years, the average iodin value was 60.88. Speaking generally, the outcome of Dr. Duncan's observations is that a decided difference exists in human fat before and after puberty, the low percentage of 44.477 of non-saturated fatty acids between 9 and 11 years of age being replaced by the high one of 60.88 from 16 to 19 years of age. Further, that a similar increase takes place in the fat of cancer patients, the percentage rising from 62.1 in health to 76.62 in that disease. Beatson holds that the important rôle played by fat in many of the phenomena of life may be said to justify further inquiries and research.

10. **Operation for Ménières Disease.**—It is emphasized by Lake that in true Ménière's disease no treatment, operative or otherwise, can effect the least degree of improvement on the condition. In cases of aural vertigo, whether accompanied by tinnitus or not, the case is very different. In such cases Lake recommends vestibulotomy, consisting in opening the vestibule and destroying its contents. His results have been good. He says that in these cases relief may be promised with certainty. The slight risk of a temporary facial paralysis does not in reality require a passing thought; the hearing is the only important factor. Where the cochlear division of the eighth nerve is relatively intact, Lake says no operation should be considered, unless one is able to demonstrate without a shadow of a doubt that the vertigo is of purely aural origin.

12. **Inoculation Against Hay-Fever.**—The plan of experiment followed by Noon was to obtain a numerical measure of the sensitiveness of the patients to the pollen toxin and to observe whether this was increased or decreased by subcutaneous inoculations of various quantities of pollen toxin. It was found that, with well-regulated dosage, it was possible in every case to raise the patient's resistance to a marked degree, within the lapse of a few months, while, on the other hand, ill-regulated dosage was at once made evident by a decrease in the resisting power.

Journal of Tropical Medicine and Hygiene, London

June 1

18 Recurring Keratitis Caused by Trypanosomes. C. W. Daniels.
19 Tetanus. Severe Relapses Due to Development of "Latent or Dormant" Spores. L. G. Fink.
20 Pathogenicity of Bacillus Pyocyaneus in British Guiana. E. P. Minett and W. J. Duncan.
21 Trypanosomiasis in North-Eastern Rhodesia. A. Brown.

Clinical Journal, London

May 24

22 Medical Treatment of Ulcer of the Stomach. W. E. Wynter.
23 *A Study of the Life-Histories of Fifty Cases of Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.

May 31

24 Surgical Treatment of Certain Forms of Obstructive Jaundice. A. W. M. Robson.
25 Pruritus. G. Pernet.
26 A Study of Fifty Cases of Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.

23. Also published in the *British Medical Journal*, April 22, 1911.

Practitioner, London

May

27 Mediastinal Growths. Sir R. D. Powell.
28 *Anomalous and Obscure Symptoms Associated with Movable Kidney. W. B. Clarke.
29 Plague in Northern China. W. J. Simpson.
30 Appendicitis. E. S. Bishop.
31 *A Review of Some Methods of Gastrostomy. E. M. Corner.
32 *Acute Pyelitis, Pyelonephritis, Suppurative Nephritis. J. W. T. Walker.
33 *Mode of Production of Apparent or Simulated Doubling of the Second Sound of the Heart. E. H. Colbeck.
34 Edema Occurring in the Course of Disease of the Gastro-Intestinal Tract in Infants. H. T. Ashby.
35 Guipsine as an Apressor Remedy in Cases of High Arterial Blood-Pressure. O. K. Williamson.
36 Modern View [illegible] and Treatment of Mucous Colitis. F. [illegible]
37 Diagnosis of [illegible] K. Gordon.
38 Diagnosis and Treatment of Acute Suppuration in the Frontal, Maxillary and Anterior Ethmoidal Sinuses. J. A. Jones.
39 A Case of Retained Menses. I. Cowen.
40 Fluoroscopic Diagnosis of Direction of a Plane Mirror on the Screen. W. Cotton.

28. **Movable Kidney.**—Every one of the five cases related by Clarke is remarkable *on account of the anomalous and puzzling* symptoms which it presented. Vomiting is well known to be associated with what may be described as the gastric type of movable kidney. As a rule, however, it is exceedingly severe and is associated with other symptoms of movable kidney, so that it is readily ascribed to its true cause and an appropriate line of treatment is carried out. These cases are, however, one and all, remarkable from the fact that, though in some instances the vomiting was severe, no associated signs or symptoms were present to give aid in the diagnosis, and thus the true significance of the vomiting was for a long time unappreciated. If, however, one reviews carefully the condition of vomiting which existed in every one of these cases, it is clear that, with the exception of the single fact that the patients were quite well and in the enjoyment of their health between the attacks, there is little to distinguish this type of vomiting from that which is associated with many other ailments. Besides the fact that the patients were all in the enjoyment of their usual health between their attacks, Clarke says attention should be called to the circumstance that great intestinal distention was present in most of the attacks. In several of the cases when once the suspicion has

arisen that the kidney might be the prime cause of the mischief, an examination of the right kidney revealed the fact that it was more movable than it should be. In one case, in which jaundice formed a prominent feature, there was ample evidence of kidney trouble on various occasions during previous years, but the true relationship which existed between the jaundice and the kidney trouble was cleared up only by operation.

31. **Methods of Gastrostomy.**—Corner urges that the methods of gastrostomy described and based on the principles of Depage's operation offer a means of doing a gastrostomy with good results comparatively early in the course of esophageal obstruction while the patient is in good condition. By such means it will be possible to diminish the mortality and improve the results of the operation of gastrostomy in a marked manner. Corner has applied the principle of Depage's method to the formation of a cecostomy where for some reason or other the operation of appendicostomy could not be done or was a failure.

32. **Acute Pyelitis, Pyelonephritis and Suppurative Nephritis.**—Walker has performed nephrectomy in three cases for the late results of pyelonephritis, in which nephrotomy had been performed years before. The patients had survived the acute attack, although the operation did not protect them from chronic pyelonephritis. Two patients on whom he performed nephrotomy during the acute stage recovered. The best results have been obtained by nephrectomy in the acute stage. When and in what circumstance this should be performed, he says, cannot be laid down dogmatically, but it should be understood clearly that these patients are suffering from suppuration, which, in the great majority of cases, is confined to a single organ, and, if improvement does not take place within a reasonable time, to be measured by days, not weeks, the organ should be removed. To put off operation until the patient's life is in danger from chronic suppuration, because there is a doubt that the second kidney may be diseased, when such information could readily be obtained, is a reproach to surgery.

33. **Second Sound of the Heart.**—In Colbeck's opinion the second element of the double sound that is heard at the apex in cases of mitral obstruction is due to tension vibration of the large anterior flap of the mitral valve.

Dublin Journal of Medical Science

May

41 Cheyne-Stokes' Breathing. J. Little.
42 Tetany. C. W. C. Myles.
43 Diabetes and Pancreatic Secretion. R. A. Albertijn.

Journal of Obstetrics and Gynecology of the British Empire, London

May

44 Pathology of Tumors of the Corpus Uteri. R. F. C. Leith.

Annales de Gynécologie et d'Obstétrique, Paris

May, XXXVIII, No. 5, pp. 257-320

45 *Remote Functional and Obstetric Results of Pubiotomy. A. P. Ramos.
46 *Laparotomy for Irreducible Retroversion of Pregnant Uterus. Goullioud.
47 The Mechanism of Spontaneous Delivery. (Des différents mécanismes de l'évolution spontanée.) J. Rouvier.

45. **Remote Results of Pubiotomy.**—Ramos recently has been examining anew eighteen patients at Buenos Aires from three months to five years after pubiotomy, and states that their present condition shows that the operation is harmless. The patients were able to be up the twentieth day and except for a slight heaviness in the left leg in some cases, which promptly subsided as the leg was used, there were no by-effects. One patient had had sciatic pain after a previous delivery, at which no operation had been done, and there was transient pain of the same kind after the pubiotomy. The incision was subcutaneous in the majority, and this he regards as the preferable technic rather than the original Gigli method. Eight of the women have passed through a pregnancy since and delivery occurred spontaneously in seven, while pubiotomy was done on the other side in the eighth case. The pelvis is not permanently enlarged by the pubiotomy unless there is defective consolidation, and it is unwise to strive for this as it might entail complications, while repetition of the pubiotomy at need is a simple and harmless procedure. Ramos has been able to find records in the literature of thirty other cases in which pubiotomized women passed through a pregnancy later; in eighteen cases delivery occurred spontaneously or after version or extraction of a living fetus, while in twelve cases the pubiotomy had to be repeated or Cesarean section done.

46. **Irreducible Retroversion of Gravid Uterus.**—In Goullioud's case the uterus was held down by a stout, fibrous band passing from the left upper corner of the uterus into the small pelvis. The organs were all sound and as soon as the band was cut the uterus righted itself, which it never could have done without the laparotomy. The diagnosis had been confirmed by the emission of a little urine whenever the posterior vault of the vagina was pushed up. This lifted the retroverted uterus and, as the fundus pivoted upward, the bladder mouth was opened (Laroyenne's sign of retroversion). Goullioud reduces the retroversion when there is no mechanical hindrance by introducing two fingers of the right hand into the vagina, striving to reach the promontory as if to measure the diameter of the superior inlet. In doing this with the gravid uterus in retroversion, the uterus is lifted up a little and by lightly touching it at a tangent, as one starts a ball to rolling, the fundus is pushed forward and lifted at the same time. With the slight impetus thus imparted, the fundus rises out of the cavity in which it has been practically impacted and spontaneously assumes the normal position, the cervix swinging around into place below at the same time. There is less traumatism of the uterus, he says, with this maneuver than with other technics, while the desired result is obtained more readily than by direct pressure.

Archives Générales de Chirurgie, Paris

April, V, No. 4, pp. 361-480

48 Kinking of Splenic Flexure After Removal of Large Abdominal Tumor. (Occlusion intestinale post-opératoire par coudure de l'angle colique gauche.) L. Heully.
49 Traumatic Diffuse Aneurysm of the Leg Cured by Ligation of Popliteal Artery. (Aneurysmes traumatiques de la loge jambière postérieure.) M. P. Bertein.
50 Total Saphenectomy: Twelve Cases. (Cure radicale des varices par la saphénectomie totale.) Bergasse.

Archives des Maladies de l'App. Digestif, Paris

March, V, No. 3, pp. 109-168

51 *Intercostal Pain as Sign of Cholelithiasis. M. E. Binet.

April, No. 4, pp. 169-228

52 Duodenal Ulcer. (Que faut-il entendre par ulcus du duodénum?) P. Caille.
53 Non-Malignant Stenosis of the Esophagus. (Etude clinique et thérapeutique des rétrécissements non cancéreux de l'oesophage.) L. Sencert. Commenced in No. 1.

51. **Intercostal Pain as Sign of Gall-Stones.**—Binet found a tender point in the interspaces in forty-seven, that is, in 63 per cent. of seventy-three patients with cholelithiasis. He found Abraham's sign (pain on pressure of a point midway between the umbilicus and the cartilage of the ninth rib) only in thirty-two. The intercostal neuralgia with gall-stones occurs in the ninth, tenth and eleventh right interspaces, but the most striking sign is a sharp pain felt on pressure of the anterior end of the eleventh rib. These pains and tenderness seem to be characteristic only of cholelithiasis, and they are frequently the first signs of a tendency to gall-stones and may prove the forerunners of an acute attack. The pain is generally elicited only by pressure.

Bulletin de l'Académie de Médecine, Paris

May 23, LXXV, No. 21, pp. 577-624

54 Displacements of the Uterus. L. Picqué and L. G. Richelot.
55 Epidemic Poliomyelitis in 1910. A. Netter.

Obstétrique, Paris

May, IV, N. S. No. 5, pp. 481-592

56 Cholesterin in the Blood During Pregnancy and the Puerperium. (Evolution de la cholestérinémie.) A. Chauffard, G. Laroche and A. Grigaut.
57 Interstitial Pregnancy: Five Cases. (Quelques cas de grossesse interstitielle.) P. Lequeux.

Presse Médicale, Paris

May 31, XIX, No. 43, pp. 445-452

58 Diagnosis and Treatment of Cerebrospinal Meningitis. P. Debré.

June 3, No. 44, pp. 453-468

59 *Vaccination by Way of Intestines Against Typhoid. J. Courmont and A. Rochaix.
60 *Chronic Enlargement of the Parotid. (Le mangy.) M. Fontoynont.

59. **Vaccination by Way of the Intestines Against Typhoid.**—Courmont and Rochaix report as the result of years of experiments that it is possible to vaccinate against typhoid by high injection into the intestines of a complete eight-day culture of typhoid bacilli killed by heating to 53 C. Goats, guinea-pigs and rabbits thus vaccinated survived intravenous inoculation of two, three or four times the fatal dose of typhoid bacilli rapidly fatal for the controls. The immunity thus conferred lasts for several months and possibly longer. The serum of the animals acquired antitoxic, bacteriolytic, bactericidal and agglutinating properties as also the serum of human beings vaccinated in the same way. As the human serum acquires these properties by the tenth day this is accepted as proof of successful vaccination although it is impossible in man to apply the final touchstone of intravenous inoculation with virulent cultures. The vaccination by way of the intestines was done in injections of 100 c.c. each, through a long cannula, adding 10 or 15 drops of laudanum to the fluid, and giving a total of three injections at five-day intervals. The injection was retained for twenty-four hours. The agglutinating power did not become very pronounced, not over 1 to 30; the bacteriolytic power, 1 to 20; but the bactericidal power rose to 1 to 200, 500 or 1.000. It is possible that by this direct application of the vaccine to the intestines the mucosa becomes more resistant to the passage of typhoid bacilli than if the injection had been made by the subcutaneous route. The facts observed suggest the possibility that the toxins are not absorbed from the intestines and that it is the dead bodies of the bacilli which are taken up into the tissues and start the defensive processes. Attempts to obtain the same results by ingestion of the vaccine gave uncertain results, sometimes positive but far more often negative. The vaccine was made from typhoid bacilli from eight sources so as to ensure polyvalent action.

60. **Enlargement of Both Parotids.**—Fontoynont says that this affection is very common in the hill districts of Madagascar. It seems to be to the parotid gland what ordinary goiter is to the thyroid.

Semaine Médicale, Paris

June 7, XXXI, No. 23, pp. 265-276

61 *Morphin Addiction. (La désintoxication rapide de la morphine et de la diacétylmorphine, considérée au point de vue hématologique.) M. Chartier.

61. **Treatment of Morphin Addiction.**—Charlier lauds the superior advantages of rapid—not sudden—suppression of the morphin, aided by stimulation of elimination of the poison by every possible route. His article is mainly devoted to study of the blood-picture during the course of treatment, the findings all confirming the advantages of this method and showing the dangers of sudden suppression or too gradual tapering off, the blood not becoming regenerated as under the influence of the rapid method.

Beiträge zur klinischen Chirurgie, Tübingen

May, LXXIII, No. 1, pp. 1-260

62 *Early Diagnosis and Early Operation for Metastatic Suppuration in the Adipose Capsule of the Kidney. (Metastatische Eiterung in der Nierenfettkapsel.) L. Rehn.
63 Action of Antiferment Serum. Bolt.
64 Experimental Research on Healing of Lung Tissue Surfaces Together. (Ueber Gegenheilung pleurafreier Lungenlappen.) W. Gundermann.
65 Successful Removal of Tumor in Vagus Nerve. H. Semel.
66 Malignant Transformation of Papilloma in Bladder. (Ueber Metaplasie von Blasenpapillomen in Carcinom.) R. Syring.
67 *Inguinal Operation for Femoral Hernia. A. Reich.
68 *Operative Treatment of Peripheral Facial Paralysis. R. Eden.
69 *Origin and Treatment of Perforating Ulcer of the Foot. (Zur Entstehung und Behandlung des Mal perforant du pied.) M. Hofmann.
70 Megacolon and Its Connection [illegible] of the Sigmoid Flexure. (Ueber die [illegible] Krankheit und ihre Beziehungen zu [illegible] erworbenen Form- und Lageanomalieen des Colon sigmoideum.) G. E. Konjetzny.
71 Gunshot Wounds of the Pancreas. (Pankreasschussverletzungen.) L. H. Diehl.
72 Lymphangiomas in Bone. L. Wrede.
73 Chondromatosis of the Bones. P. Frangenheim.
74 Restoration of Nasal Septum. (Ersatz des Nasenseptums.) P. Frangenheim.

62. **Metastatic Suppuration in the Kidney Capsule.**—Rehn discusses the bacteriology, anatomy and etiology, diagnosis and operation and reports nine cases in detail and some experimental research. The latter shows that metastatic perirenal suppuration may result from the passage of virulent germs through the capsule, destroying it, but also by primary metastasis in the vessels of the fibrous capsule. Some possibly slight injury of the parenchyma of the kidney is probably required and some focus of virulent staphylococci in the body, sending out at intervals its products, while the diameter of the capillaries is too small at certain places for the clumps of cocci. An early operation is the only salvation, and he thinks it is possible to recognize the metastatic abscess in its incipiency by the violent pain, its localization corresponding to the area of the adipose capsule of the kidney. There is also chilliness or an actual chill, followed by remittent fever. These symptoms accompanying furunculosis or a carbuncle point directly to suppuration around the kidney, and the diagnosis is confirmed by tenderness in the kidney region. If the manifestations are severe, operative treatment should follow at once. In one of Rehn's cases the first sign of trouble was violent delirium. There may be polyuria but negative findings in respect to the urine do not exclude suppuration in the kidney and its adipose capsule. Exploratory puncture is of little use and may prove dangerous. The kidney should be amply exposed and the abscess must be sought close to the surface of the kidney until it is found.

67. **Inguinal Operation for Femoral Hernia.**—Reich gives an illustrated description of the technic which he commends for femoral herniotomy. He attacks the sac from the rear, through the inguinal canal, drawing the sac out through this canal and putting an end to the tendency to hernia by suture of the muscles, periosteum and ligament in the inguinal region.

68. **Surgical Treatment of Facial Paralysis.**—Eden reviews the experiences in this line to date, the ultimate outcome of nerve-grafting operations not being very satisfactory. He then reports a plastic operation on the masseter muscle for the purpose, the results of which have been excellent. The improvement secured by the operation was immediate and it seems permanent, neither of which is secured by a nerve-grafting operation.

69. **Perforating Ulcer of the Foot.**—Hofmann was unable to find any other cause for the perforating ulcer of the foot in his fifteen cases than chronic alcoholism and labor requiring long standing; the patients were all elderly men. During the three years in question he never encountered a case of the kind in a tabetic. The abscess was on one foot only in five; both feet were affected in the others. Treatment was operative in every case and he insists on the necessity for radical measures to avert serious complications.

Berliner klinische Wochenschrift

May 29, XLVIII, No. 22, pp. 973-1020

75 *Fatality After Salvarsan in Tabes. (Ueber einen Todesfall nach Behandlung mit Salvarsan bei spinaler Erkrankung mit mikroskopischer Untersuchung des Rückenmarks.) A. Westphal.
76 Roentgenography of the Stomach. (Röntgenographische Bestimmung der Lage des Magens.) S. Talma.
77 *Quantitative Determination of Albumin in Stomach Content. (Bestimmung gelöster Eiweissstoffe im Mageninhalt.) W. Wolff and P. Junghans.
78 Experimental Surgery of the Esophagus. E. Unger, M. Bettmann and W. Pincus.
79 Metastatic Suppurative Focal Pneumonia After Tonsil Abscess. F. Cohn.
80 *Anaphylatoxin. H. Ritz and H. Sachs.

75. **Recent Syphilitic Meningitis with Tabes: Death After Salvarsan.**—The necropsy findings in Westphal's case indicated recent syphilitic meningitis with true tabes. The patient was a woman of 33 who had never taken treatment for her syphilis, until 0.4 gm. of salvarsan was injected in the gluteal muscles. Seven hours afterward there was sudden trouble in breathing soon leading to complete arrest which proved permanent notwithstanding artificial respiration for an hour. The fatality was evidently due, he thinks, to sudden paralysis of the phrenic nerve from pressure from the hyperemia and edema in the spinal canal induced by the

action of the drug—all the regional tissues, including the phrenic nerve, being already pathologic from the syphilitic disturbances. This conception of the case harmonizes with the frequent experience of neuropathologists that nerves suffering from toxic, infectious or other injurious influences are peculiarly liable to become paralyzed even from some slight injury such as moderate pressure. If the necropsy had been omitted and the preexisting, clinically latent inflammation of the phrenic nerve had not been discovered the fatality might have been ascribed to the toxic action of the drug alone. Westphal agrees with Ledermann that it is highly probable that the salvarsan is liable to rouse a latent syphilitic neuritis to active manifestations, but the case here reported is the first one, he thinks, in which anatomic testimony as to such an occurrence has been presented. He adds that the study of the neurorecurrences under salvarsan treatment is extremely important to throw light on the earliest stages of nerve syphilis. One practical conclusion from his case is that the slightest suspicion of any syphilitic affection in the upper spinal cord should impose the greatest caution in the administration of salvarsan. It should be begun with minute doses to avoid an acute stormy reaction. Extreme care is necessary if anything points to an affection of the phrenic, vagus or other important nerves or their nuclei. At the same time, he would not summarily exclude all such patients from salvarsan treatment.

77. **Albumin in Stomach Contents with Cancer.**—Wolff and Junghans state that the dissolved albumin in the stomach content does not afford any exact information as to the proteolytic function of the stomach but, at the same time, *in* connection with other signs, it may be found very useful in differentiating gastric cancer. In eight cases of gastric cancer the proportion of dissolved albumin in the stomach content was very high while the proportion of pepsin and hydrochloric acid was remarkably low. He thinks this combination is certainly suggestive of cancer; it is evidently the result of several factors including the proportionately large amount of albumin in the secretions of the ulcerating tumor. (This is the basis of the Salomon test for gastric cancer.) Another factor is the presence of the peptid-splitting ferment (the basis of the Neubauer and Fischer test). It is also possible that with gastric cancer the mucosa is injured to such an extent that absorption is materially reduced. They apply the test for albumin by diluting the stomach content obtained one hour after the test breakfast. The beakers contain the dilutions in turn from 0.025 to 10 up to 1 to 10. In each beaker 1 c.c. of the reagent is superimposed *on the diluted* stomach content. The reagent is a mixture of 0.3 parts phosphotungstic acid; 1 part hydrochloric acid, 20 parts 96 per cent. alcohol, and water to 200 parts. The standard is the dilution in the first beaker in which *no ring forms in contact* with the reagent. The findings with this simple test compare favorably with those of various other methods. The albumin index is the dilution, so that the figures are 10, 20, 40, 100, 200 and 400.

80. **Anaphylatoxin.**—Ritz and Sachs report extensive research showing among other things that kaolin is able to prevent the formation of anaphylatoxin by the reciprocal action of bacilli and guinea-pig serum. Kaolin is also able to deprive a solution of anaphylatoxin of all toxicity.

Correspondenz-Blatt für Schweizer Aerzte, Basel

May 20, XLI, No. 15, pp. 528-560

81 *Combination of Tuberculosis and Syphilis. (Tierexperimenteller Nachweis, Züchtung und Färbung des Syphilis-Erregers.) C. Spengler.
82 The Sphygmometer. (Ein neuer Apparat zur Prüfung der Herzfunktion.) H. Schulthess.

June 1, No. 16, pp. 561-592

83 Sphygmobolography. (Ueber di[illegible] Sphygmographen, speziell des [illegible] bolometrischen Untersuchungen. [illegible] eine klinische Methode.) H. Sahli.

81. **Mixed Syphilis Plus Tuberculosis.**—Spengler says that in many cases of pulmonary phthisis with much expectoration the disease is in reality a combination of syphilis and tuberculosis although the syphilis may not manifest any signs of its presence. He has been able to cultivate spirochetes from the sputum in such cases, along with the tubercle bacilli, finding both the pallida and the refringens type, and obtaining positive results on inoculation of animals. Rabbits which have been once or several times inoculated with syphilis and have spontaneously recovered are sensitized and respond with peculiar sensitiveness to inoculation of syphilis germs when the germs are scanty or the syphilitic infection latent. He discusses the simplest and most reliable means of determination of the spirochetes and interpretation of the findings.

Deutsche medizinische Wochenschrift, Berlin

June 1, XXXVII, No. 22, pp. 1009-1056

84 *Heredity. (Ueber Vererbung.) H. Ribbert.
85 *Salvarsan in Syphilis of the Central and Spinal Nervous System. G. Treupel.
86 *Sensitive Skin of the Tuberculous. (Die Toxinempfindlichkeit der Haut des tuberkulös infizierten Menschen.) J. Sorgo.
87 *Pulmonary Tuberculosis and Pregnancy. (Zur Frage der Lungentuberkulose und Gravidität.) L. J. Rabnow and K. Reicher.
88 *Serodiagnosis of Pregnancy by Epiphanin Reaction. (Experimentelle Studien mit artgleichem Synzytiotoxin; Schwangerschaftsdiagnose mittels der Epiphaninreaktion.) E. Mosbacher.
89 Improved Technic for Cultivation of Typhoid Bacilli. F. Dennemark.
90 *Chloroform not an Antidote for Poisoning from Nitrous Gases. F. Curschmann.
91 A Normal Pregnancy After Nephrectomy. J. P. Haberern.
92 *The Wassermann Reaction in Lead Poisoning. Schnitter.
93 *Homeopathy. (Hahnemanns Lehre und die heutigen Homöopathen.) E. Harnack.

84. **Heredity.**—Ribbert argues that inheritable pathologic changes in the body must have appeared first in the germ-cell, not in the developed organism, insisting that there can be no inheritance of acquired properties.

85. **Salvarsan in Syphilis of the Central Nervous System.**—Treupel has treated sixty-two patients in this category with salvarsan, making a total of 100 injections. He tabulates the details in the various groups, his conclusions being that intravenous injection of salvarsan is justified in tabes and paralysis when the interval since infection has not been too long and the nervous troubles are of recent onset. He has not witnessed an unmistakable arrest of the affection in any instance; it is possible that the dosage—a total of 1.2 gm.—was too small. He insists strictly on the patient's keeping quiet and under his supervision for a time after each injection.

86. **Skin of the Tuberculous Extrasensitive.**—Sorgo found that the skin of the tuberculous reacted with a specific intensity to other toxins as well as to tuberculin, showing that the skin is extrasensitive. The organism reacts in an abnormal manner to all toxins, not merely to tuberculin, thus disproving the assumption of a special allergy to the tuberculosis toxin. The allergy is merely an extrasensitiveness to the action of toxins in general. This explains a number of hitherto puzzling facts, such as the extrasensitiveness of rabbits bought in the market in comparison to those raised by the experimenter; the rabbits were already tuberculous when bought and thus extrasensitive. Sorgo's experiments were made with diphtheria, dysentery or cholera toxins or a combination of two or more, injected into groups of from thirteen to fifty patients at a time. Further evidence in favor of his theory is that after a new injection of tuberculin there was a lively reaction at the points where the tuberculin, diphtheria toxin or dysentery toxin had been injected long before.

87. **Pulmonary Tuberculosis and Pregnancy.**—Rabnow and Reicher state that ten pregnant working women who were under treatment for pulmonary tuberculosis during 1909 passed through a normal childbirth and some of them nursed their children, and yet the pulmonary tuberculosis has shown no signs of a progressive course in seven of the women. Only one has lost over 10 pounds in weight and four have gained from 2 to 22 pounds and over. Only one of the women was a primipara; the others had borne from one to eight children previously and two have borne two children since they have been coming to the tuberculosis dispensary. Seven of the ten children are living; three others died between the fourth and the seventh months from tuberculous enteritis. Five of the women have tubercle bacilli occasionally in their sputum, one out of four examinations giving positive findings.

88. Serodiagnosis of Pregnancy by the Epiphanin Reaction.—This serologic surface test is somewhat similar to the meiostagmin reaction. The epiphanin reaction was described in The Journal, Jan. 21, 1911, p. 228, and the meiostagmin reaction was discussed editorially May 28, 1910, p. 1790. With this physiochemical test, Mosbacher states that it is possible to determine whether a woman is pregnant before any other signs of conception have become apparent. He found that gravid guinea-pigs succumbed with symptoms of anaphylaxis when injected with a filtrate of guinea-pig placenta, while non-gravid animals and gravid animals near the end of gestation bore the injection without harm. The tolerance increased in proportion to the interval since conception. The animals all died with signs of anaphylaxis when the injection was made soon after the guinea-pigs had been fecundated.

90. Treatment of Industrial Intoxication from Nitrous Gases.—Curschmann has been investigating the assumed efficacy of chloroform as an antidote for industrial poisoning with nitrous gases, and has found that not only is chloroform not an antidote but that it does direct harm, superposing the intoxication from the anesthetic on that from the gases. Oxygen, on the other hand, answers the therapeutic indications, especially if supplemented with blood-letting.

92. Wassermann Reaction in Lead Poisoning.—Schnitter obtained a positive reaction in four of sixteen patients with severe lead poisoning. Three of the four were free from syphilitic taint but all in this group had been working in lead for years.

93. *Homeopathy.*—Harnack comments on the absolute sterility of the adherents of homeopathy in respect to original scientific work. Not one has ever made the slightest contribution, he declares, to the progress of scientific or practical medicine.

Jahrbuch für Kinderheilkunde, Berlin

LXXXIII, Supplement, pp. 1-288

94 *The School and Scoliosis. A. Schanz.
95 Experiences with Diphtheria at Moscow, 1903-09. W. Colley and B. Egis.
96 *Meningeal Symptoms in Scarlet Fever; Sixteen Cases. (Meningismus bei Scharlach.) H. Sachs.
97 *Study of the Viscosity of the Blood. (Viskosimetrische Studien.) J. Trumpp.
98 *Simplest Dietetic Treatment of Digestive Disturbances in Infants. (Zur Behandlung ernährungsgestörter Säuglinge mit einfachsten Mitteln.) K. Oppenheimer and O. Funkenstein.
99 *Hemorrhages in the [illegible] Relation to Tetany in Children. [illegible] und ihre Beziehungen zur Tet[illegible]ach.
100 The Fat Content of In[illegible] Fettgehalt der Fäzes der Säuglinge nebst einigen anderen Bemerkungen.) H. Saito.
101 Research on Metabolism of Infants on Whey. (Ueber Ernährung debiler Kinder mit molkenreduzierter Milch an der Hand von Stoffwechseluntersuchungen.) E. Müller.

May, No. 5, pp. 545-674

102 Idiopathic Osteopsathyrosis. S. Miura.
103 Influence of Sugar on Intestinal Flora of Children. (Einfluss des Zuckers auf die Darmflora der Kinder.) E. Hartje.
104 Changes in the Mineral Constituents of Infant's Body in Acute and Chronic Loss of Weight. (Veränderungen im Mineralstoffbestand des Säuglingskörpers bei akuten und chronischen Gewichtsverlusten.) L. Tobler.
105 Infectious Myelocytosis. (Beitrag zur Frage der myeloischen Blutbildung.) P. Jungmann and P. Grosser.
106 *Chronic Familial Tetany. F. Schiffer.
107 *Adenoid Vegetations are Generally Congenital. (Sind die adenoiden Wucherungen angeboren?) E. Erdely.

94. The School and Scoliosis.—Schanz argues that the school does not cause curvature of the spine but in reality protects against it as the spine does not have so much burden to bear when the child is seated as when it is running about. The child at its desk seldom keeps in the same position for any length of time, it is constantly changing its position, and when it rests on its elbows or rests its head on its hand, this relieves the spine of just so much weight. He is convinced that the tendency to curvature is inaugurated before the child enters on its school life, from the mechanical stress of the burden on the spine. During school life the child grows so fast that the curvature is liable to develop or increase, as a growth curvature, and under the debilitating influence of puberty and of the acute infectious diseases, which are generally contracted during school life. Consequently the scoliosis which is observed in children during school life has nothing to do with the school itself except as the indoor confinement has a depressing influence on the general health. In prophylaxis frequent pauses for gymnastic exercises or recess are necessary, and measures to ward off infectious diseases. Still more important is the early recognition of the tendency to scoliosis, and here the medical school inspectors are especially useful as they should learn to detect scoliosis and exclude such children from the general gymnastic exercises and notify the parents that they must be taken to a specialist for treatment of the beginning deformity. The school inspectors and the orthopedists can thus work together in a most fruitful field, but he warns that the medical inspectors must beware of trying to treat the scoliotic pupils themselves. They have not the time, appliances or skill and precious time is liable to be wasted so that proper treatment will come too late.

96. *Meningeal Symptoms in Scarlet Fever.*—Sachs encountered sixteen cases of scarlet fever with the clinical manifestations of meningitis among 400 scarlet fever patients in the course of nine months. There were two adults in the group and three children, 2, 4 and 5 years old; the others were between 8 and 11. The necropsy findings in two of the five cases with a fatal termination are reviewed. Nothing was found to explain the severe meningitic symptoms, the condition being more a meningism, a pseudomeningitis. When the fluid escaped under high pressure on lumbar puncture, great relief followed, but when the pressure was not high, the lumbar puncture did not seem to benefit, but it proved very instructive by permitting the exclusion of a suppurative or serous meningitis. The prognosis did not seem to be affected by the pseudomeningitis as the severity of the scarlet fever was what determined the outcome. The meningeal symptoms seemed to be due to a combination of vasomotor changes and injuries affecting the central nervous system, similar to the meningeal symptoms observed with influenza. The cases reported show that hyperesthesia, rigidity of the neck and Kernig's sign may be present without any increase in the pressure in the lumbar sac.

97. Viscosity of the Blood.—Trumpp devotes sixty-four pages to the findings with the viscosimeter and the influence of various factors on the viscosity of the blood, tabulating the findings in over 213 patients, young and old. They throw so much light on the condition that he declares that viscosimetry is indispensable for estimating one property of the blood which is extremely important for the work of the heart. The great drawback of the method is that the peripheral blood has to be used and this varies so widely in its composition, on account of the work of the heart at the moment, the body and room temperature and other factors.

98. Treatment of Infants with Digestive Disturbances.—Oppenheimer and Funkenstein present here a detailed study of 158 infants with more or less serious digestive disturbances who were treated with the simplest measures, such as milk, tea, soup and flour. They do not know of any extensive research of the kind with these ordinary, simple measures, although the literature teems with reports of similar research on the effects of buttermilk, albumin milk, malt soup, etc. A favorite and very useful method was to boil the milk and then keep it on ice and give the infant 1 or 2 teaspoonfuls every half hour, very cold. The total in the first twenty-four hours was only a tumblerful, but benefit was apparent at once as a rule and the infant ceased to lose weight. This iced milk gave especially good service in cases of alimentary intoxication; in these cases it was preceded by a day in which no food was given the infant.

99. Hemorrhages in the Parathyroids.—Auerbach found five parathyroids at autopsy of one of thirty-three infants, four in nine, three in ten, two in five infants and only one parathyroid in eight. All but thirteen of the children had shown an unmistakable spasmophilic diathesis during life. Examination of the parathyroids showed traces of hemorrhage in them in fully 76 per cent. of all the infants, including those both with and without the spasmophilic tendency. Cysts were also found occasionally in the parathyroids. Birth asphyxia cannot be responsible for all these cases of hemorrhage.

106. **Familial Chronic Tetany.**—Schiffer reports the case of a healthy couple with five children, all the children developing tetany before they were 1 year old, three dying in convulsions before they were 2 years old, and the other still with severe tetany. There were no signs of tetany in any of the children until after they were weaned. Necropsy of one of the children failed to reveal anything pathologic in the parathyroids.

107. **Congenital Adenoid Vegetations.**—Erdely's experience has been that these vegetations are generally congenital and that they should be removed when they cause symptoms. It is better to wait until the child is 6 months old. Thirty-two cases are reviewed.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

May, XXXIII, No. 5, pp. 553-676

108 *Formation of Vagina. (Ueber den Ersatz der Vagina bei vollkommenem Defekt derselben.) J. A. Amann.
109 Deformity of Cartilage in the Fetus. (Ueber Chondrodystrophia foetalis.) R. Basset.
110 *Origin of and Operation for Prolapse of the Uterus. O. v. Franqué and A. Sippel.
111 Retroversion and Prolapse of the Uterus. L. Heidenhain.
112 Vaginal Methods in Gynecology. T. Dobbert and D. v. Ott.

108. **Vagina Made from Rectum.**—The anterior wall of the ampulla of the rectum was unusually large, and Amann drew it down to make a vagina in the case reported in which the vagina was entirely lacking. A segment of the anterior wall of the rectum might be used, excising it between the flexure and the anus, leaving the latter intact, but excision was not required in his case. The article is illustrated.

110. **Operative Treatment of Uterine Prolapse.**—Franqué has performed the Schauta-Wertheim operation for extensive prolapse in sixty-four cases, and has been much gratified at the results.

Münchener medizinische Wochenschrift

May 30, LVIII, No. 22, pp. 1169-1224

113 *Salvarsanized Milk. (Salvarsanmilch.) A. Jesionek.
114 *Changes in Thyroid and Hemoglobin Percentage in Chlorosis. (Schilddrüsenveränderungen und Hämoglobingehalt des Blutes bei Chlorose.) E. Handmann.
115 *Paralysis After Epidemic Poliomyelitis. (Zur Frage der poliomyelitischen Lähmungen.) R. Pürckhauer.
116 Present Status of Bilharziosis. (*Unsere jetzigen Kenntnisse* über die Schistosomiasis.) M. zur Verth.
117 *Treatment of Anemia with Salvarsan. C. *Leede.*
118 Syphilis at Outset of Secondary Phase Affecting the Labyrinth of the Ear. K. Hintze.
119 Dysentery Bacilli-Carriers. (Zur Frage *der Bedeutung der* Ruhr-Dauerausscheider.) K. E. Boehncke.
120 Technic of Clinical Myography. A. Jacquet.
121 Auto-Lavage of the Bladder. (Die Blasenspülung in der Hand des Patienten.) N. Meyer.
122 *Interpretation* of Roentgen-Ray Findings. (Zur diagnostischen Qualität des Röntgenbildes.) F. Dessauer.
123 *The Collodion Ring in Treatment of Furuncles. W. Fuchs.
124 Medical Impressions in England and the United States. (Reiseeindrücke aus England und den Vereinigten Staaten.) A. Hengge.

113. **Salvarsanized Milk.**—Jesionek reports experiences which seem to show that arsenic passes into the milk after *administration* of salvarsan. He was unable to confirm the good results obtained by Taege and Duhot in syphilitic infants *nursing* mothers who had been given salvarsan. In his cases the children did not do well and a severe eruption developed each time the day after the mother had had the injection of salvarsan. The eruption did *not seem* to be of a toxic nature nor a Herxheimer reaction, but seemed to be the result of flooding the infant with syphilitic virus. Something *seemed* to have been transmitted to the infant in the mother's milk which aroused the *spirochetes* in the infant to pathogenic activity or rendered such activity possible. Two such cases are described *in detail;* the prompt subsidence of the eruption on change *to cow's milk* confirmed the assumption as to the influence of the milk in question. He treated a goat with intravenous *injections* of salvarsan and fed the milk to a syphilitic 5-year-old child, and he thinks that the results justify wide *application of this method in* treatment of syphilitic children. It is more reasonable to assume that the salvarsanized milk is better *for the child,* being free from syphilitic toxins, than the *milk of a syphilitic* woman even when the milk contains antibodies. In any event the syphilitic woman had better refrain always from nursing the child for a few days after injection of salvarsan, allowing time for the elimination of the assumed endotoxins. The best of all methods would be to have the child nursed by a non-syphilitic woman who had taken salvarsan. As this is impracticable, the next best is to use the milk of a goat or cow under the influence of salvarsan, feeding the child with this salvarsanized milk until it is tided past the worst manifestations of the disease and the dangers of intense endotoxin action, following this with mercury.

114. **Thyroid Changes in Chlorosis.**—Handmann states that it must be more than a coincidence that goiter was apparent in twenty-five of his forty-four patients with chlorosis. In four cases the goiter had increased during the chlorosis and in three other cases there were symptoms of exophthalmic goiter. In more than half of the total forty-four cases, the hemoglobin proportion was above 80 per cent. and in twenty-three cases 100 per cent. or above 90. As the patients recovered under iron, no change was apparent in the goiter.

115. **Epidemic Poliomyelitis.**—Pürckhauer insists that the paralysis which follows this disease is in many cases not an actual paralysis but more the results of injury from overstretching of muscles in the course of the disease. The loss of elasticity in consequence of overstretching may simulate paralysis. If the muscle is allowed to retract by bringing closer together its points of attachment, it recuperates in time, but is liable to lose its hardly regained elasticity if subjected to new overstrain. He reports some instructive cases of this alternation of functioning and paralysis. Among nineteen cases of paralytic pes equinus, the extensors were overstretched but regained their functioning when permitted to retract. In management of a case of poliomyelitis, as soon as the painful stage has passed, every effort must be made to prevent overstretching of the muscles.

117. **Salvarsan in Anemia.**—Leede reports a case of what was supposed to be pernicious anemia in which great improvement was obtained under salvarsan, and the syphilitic nature of the anemia became evident later. The benefit from salvarsan may be accepted as differentiating the syphilitic nature of the anemia. In true pernicious anemia his experiences have been such as to contra-indicate its use in future.

123. **Collodion Ring in Treatment of Furuncles.**—Fuchs paints a circle of collodion around the base of the boil, leaving the inflammatory focus untouched. He repeats the concentric application several times a day, widening the ring outside but not encroaching on the boil. The effect is to force the boil to early ripening by the constriction from the collodion ring while the latter prevents the spread of the process. He has been applying this simple measure for years and commends it in high terms. In two cases described the collodion was applied repeatedly for three days with prompt spontaneous evacuation of the boil.

Wiener klinische Wochenschrift, Vienna

May 25, XXIV, No. 21, pp. 735-774

125 *Disinfection of Anthrax-Infected Hides and *Skins. (Ein* unschädliches Desinfektionsverfahren für milzbrandinfizierte Häute und Felle.) A. Schattenfroh.
126 *The Acetonitril Reaction, Especially for Differential Diagnosis of Exophthalmic Goiter. G. Ghedini.
127 *S Salvarsan. V. Hrdliczka.
128 f man den Stramoniumzigaret- zuschrieben?) G. Günther.
129 ndia. E. Wiener.

125. **Disinfection of Hides and Skins.**—Schattenfroh has found that hides and skins infected with anthrax bacilli can be effectually sterilized by pickling for several days in a solution containing 2 per cent. hydrochloric acid and 10 per cent. salt at ordinary temperature. The same effect can be realized in six hours with 1 per cent. hydrochloric acid and 8 per cent. salt, if a temperature of 40 C. is constantly maintained. He advocates compulsory sterilization by one of these methods before the skins are put on the market. The procedure, he says, is harmless for the hides.

126. **The Acetonitril Reaction in Differentiation of Exophthalmic Goiter.**—Ghedini has been applying for differentiation of the tendency to excessive functioning on the part of the thyroid gland, Reid Hunt's discovery that white mice become

to reduce the irritability of the nerves innervating the organ. The mind and the body, the spiritual and the physical, are continually acting and reacting on each other, and in all the range of nervous troubles simulating the organic, treatment should be addressed to the mind first and foremost. Faith in ultimate recovery and the will to get cured are the most important elements in the cure. When the patient takes pleasure in eating proper food the battle is won.

147. **Toxic Dermatosis Under Salvarsan.**—Fisichella reported a few years ago a case of fatal mercurial dermatitis following subcutaneous mercurial treatment for syphilis, an evident idiosyncrasy. He here reports that two of the forty syphilitic patients whom he has treated with salvarsan developed a toxic dermatitis. One had intercostal herpes zoster come on thirteen days after an intramuscular injection of salvarsan. The symptoms were not quite so pronounced as in ordinary infectious herpes. The other patient had an itching erythema over the entire covered parts of the body. It subsided by the fifth day but returned again as the patient was given a course of Fowler's solution, the physician not knowing of the injection of salvarsan shortly before. De Luca has reported a similar case of herpes after injection of hectine.

148. **Determination of Tubercle Bacilli in the Urine.**—Martinelli extols the simplicity and reliability of the technic introduced by Ellermann and Erlandsen for detection of tubercle bacilli in urine sediment. It was described in The Journal, Sept. 19, 1908, page 1044.

149. A similar article was summarized in The Journal recently, May 27, page 1619.

150. **Cysticercus of the Tongue.**—The growth removed from the tongue contained the larva of the tapeworm of man, *Cysticercus cellulosæ.* The patient was a man 40 years old.

Upsala Läkareförenings Forhandlingar

Supplement, pp. 1-86

151 *Suggestions for Proposed Revision of Legislation on Marriage. (Upsala medicinska fakultets yttrande till kungl. medicinalstryrelsen med anledning af förestående revision af äktenskapslagstiftningen.) C. Henschen.

151. **Proposed Revision of Legislation Regarding Marriage.**—The Swedish government consulted the Upsala medical association (*Läkareförening*) in regard to modifying the present laws regulating matrimony. A committee was appointed to study the various questions involved and the report of the committee forms a pamphlet of eighty-six pages, taking up in turn epilepsy, insanity, venereal disease, alcoholism, leprosy, tuberculosis, impotency, deaf-mutism and close blood relationship as affecting marriage, as a cause for degeneration and as a cause for divorce, with consideration of various other questions, including the minimal age and the operative sterilization of criminals.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Jahrbuch für orthopädische Chirurgie. Von Dr. Paul Glaessner, Orthopädischer Assistent der chirurgischen Universitäts-Poliklinik in der Kgl. Charité zu Berlin. *Mit einem Vorwort von Prof.* [illegible] und *Dr. Pels-Leusden,* Oberarzt der chirurg[illegible] *arité* Leiter der chirurgischen Universitäts-[illegible], 10 zu Berlin. *Vols. I and II;* 1909 a... marks. Pp. 114. Berlin: Julius Springer, 1911.

Monograph Series of the American Association for the Conservation of Vision. Vol. I. Douglas C. McMurtrie, General Editor. No. 1. Ophthalmia Neonatorum in Ten Massachusetts Cities. A Study by the Research [illegible] Boston School for Social Workers. By Henry [illegible] r. Pp. 41. New York: American Association [illegible] of Vision, 25 West Thirty-Ninth Street, 1911.

Diseases of the Ear, Nose and Throat. For the Family Physician and the Undergraduate Medical Student. By Henry Ottridge Reik, M.D., Associate in Ophthalmology and Otology in the Johns Hopkins University. Assisted by A. J. Neilson Reik, M.D., Surgeon in the Baltimore Eye, Ear and Throat Hospital, Baltimore. Cloth. Price, $3. Pp. 374, with 81 illustrations. New York: D. Appleton & Co., 1911.

The Mount Clemens Mineral Baths. The Physical and Chemical Nature of the Waters, Their [illegible] Their Therapeutic Effects in the Treatment of [illegible] and Various Other Information Pertinent to the [illegible] Clemens. By Dr. Waldemar T. Lungershausen, Mount Clemens, Mich. Paper. Pp. 34.

Hymn to Hygiea. English and German Text. Words and Music by John C. Hemmeter, M.D., PHIL.D., LL.D., Professor of Physiology, University of Maryland, Baltimore. Dedicated to Prof. William Henry Welch of the Johns Hopkins University. Paper. Price for Score, $1 net. New York: Carl Fischer, 1911.

Die Röntgenstrahlen in der Gynäkologie mit einem Ausblick auf ihren künftigen Wert für soziale und sexuelle Fragen. Von Dr. Manfred Fraenkel, Charlottenburg. Paper. Price, 7.50 marks. Pp. 255, with 46 illustrations. Berlin: Richard Schoetz, Wilhelmstrasse 10, 1911.

Anatomy of the Brain and Spinal Cord. By J. Ryland Whitaker, B.A., M.B. (Lond.), Fellow of the Royal College of Physicians, Edinburgh. Fourth Edition. Cloth. Price, 5 shillings 6 pence. Pp. 228, with 98 illustrations. Edinburgh: E. & S. Livingstone, 1911.

Tuberculosis Hospital and Sanatorium Construction. Written for the National Association for the Study and Prevention of Tuberculosis. By Thomas Spees Carrington, M.D., Assistant Secretary. Paper. Pp. 164. New York: 105 East Twenty-Second Street, 1911.

Records of the New Hampshire Medical Society. From Its Organization in 1791 to the Year 1854. Published by Authority of the Society. Cloth. Pp. 439. Irving A. Watson, Chairman of Committee, Concord, N. H., 1911.

Fifteenth Report of the State Board of Health of the State of Maine. For the Four Years Ending Dec. 31, 1909 (1906-1909). Cloth. Pp. 318. A. G. Young, Secretary, Augusta, Maine, 1911.

A New Idea in Sanitation. The Great Menace to Public Health that Covers Every Mile of Railroad Track in the United States and Other Countries. Compiled by J. C. Salter, New York. Paper. Pp. 89. 1911.

Twenty-First Annual Report of the Eye, Ear, Nose and Throat Hospital of New Orleans, La. Jan. 1, 1910, to Dec. 31, 1910. Paper. Pp. 76. Joseph A. Hincks, Secretary, 1911.

Studies from the Rockefeller Institute for Medical Research. Reprints. Volume XII. Paper. New York: The Rockefeller Institute for Medical Research, 1911.

Verzeichnis der Behörden, Lehrer, Anstalten und Studierenden der Hochschule Zürich im Sommersemester 1911. Paper. Pp. 44. Zurich: Fritz Amberger, 1911.

New Patents

Recent Patents of Interest to Physicians

973998	Preparation of eugenol and albumin. Hans Belart, Huddersfield, England.
973634	Fumigating apparatus, Cornelius A. De Pree, A. Leenhouts and J. J. Hersen, Holland, Mich.
973770	Massage apparatus. Benjamin L. Gates, Chicago.
973992	Producing saturated lime water. Harry H. Sutro, New York.
974367	Massaging implement. Anna M. Dunder, Wilbur, Neb.
974494	Crutch. Chester L. Jensen and L. A. Lahey, Spokane, Wash.
974495	Hospital bed. Fred E. R. Jones and R. S. Barnum, Chicago.
974514	Sterilizing device. Henry W. Patrick, Elyria, Ohio.
974182	Obtaining olefin or saturated acids. Isaac K. Phelps, New Haven, Conn.
974294	Surgical bandage. Edmund M. Pond, Rutland, Vt.
974597	Manufacture of malted preparations from cereals. Louis C. Reese, Southfields, London, England.
974298	Disinfecting apparatus. Charles B. Rider, Ocean City, N. J.
974531	Syringe. Frederick Schwarz and H. Tauss, Vienna, Austria-Hungary.
975016	Hammock for douche and similar baths. Godfried L. H. Burger, Boston.
975029	Artificial limb. James A. Galvin, Astoria, N. Y.
975129	Stable mixture for producing hydrogen peroxid. Reinhold Gruter and H. Pohl, Charlottenburg, Germany.
974879	Surgical instrument. George E. Gwinn, San Antonio, Tex.
974789	Ozonizer. David S. Henney, Newark, N. J.
975151	Formic acid. Max Neumann, Wiesbaden, Germany.
975282	Sterilizer. George H. Reeves, Flat River, Mo.
975925	Disinfecting apparatus. Leon E. Bach, Rochester, N. Y.
975835	Electrolytically treating tannic infusions of plants. Hermann Damkohler and H. Schwindt, Bremen, Germany.
976051	Milk extract of wild spikenard. Frank H. Davis, Butler, Pa.
975854	Receptacle for sputum. William L. Gerard, Bellingham, Wash.
975866	Formic acid. Henry Howard, Boston.
975874	Apparatus for preparing infusions. Herrmann E. Korn and E. Kuhn, East Orange, N. J.
975436	Vibratory massage apparatus. Fred R. Kunkel, Edgewood Park, Pa.
975439	Artificial limb. Theodore M. Lawrence, Seattle, Was.
975702	Massaging apparatus. Eugene J. McCarthy, New York.
975447	Emulsifying oils, fats and the like. Armand Muller-Jacobs, New York.
975888	Artificial leg. Harry T. Odgers, Columbus, Ohio.
975996	Stretcher. Walter B. Reed, White Cloud, Mich.
975814	Mouth tablet. Albert Westlake, New York.

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THE PRESENT STATE OF OUR KNOWLEDGE OF ACUTE RENAL INFECTIONS

WITH A REPORT OF SOME ANIMAL EXPERIMENTS *

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NEW YORK

I have elected to present for consideration and discussion the results of some clinical and pathologic studies in acute renal infection. The subject is one which has interested me for several years, and at infrequent intervals and in a rather desultory manner I have followed out some experimental work, which at times has served only to confirm the work of others, and at other times has furnished a rational explanation of certain clinical phenomena observed in some of the severer forms of renal infection. The first series of experiments, which had to do with a determination of some of the more frequently encountered causes of acute hematogenous infections, has already been published. During the past year, however, some further experiments have been carried out with a view to determining the effects of some of the rarer etiologic factors, as the various degrees of anemia, passive hyperemia and aseptic infarcts, in the causation of hematogenous infections; as well as some observations on experimental ascending pyelonephritis.

As it is of advantage in any department of medical or surgical research in which advances are constantly being made to review from time to time the progress of the work, and as it were to take an inventory of our present knowledge based on the facts which have been definitely established, it occurred to me that it might be worth while on this occasion to make an inquiry into our present knowledge of the causation of renal infection, and the nature of the pathologic processes which result in the different clinical types of surgical infection of the kidney.

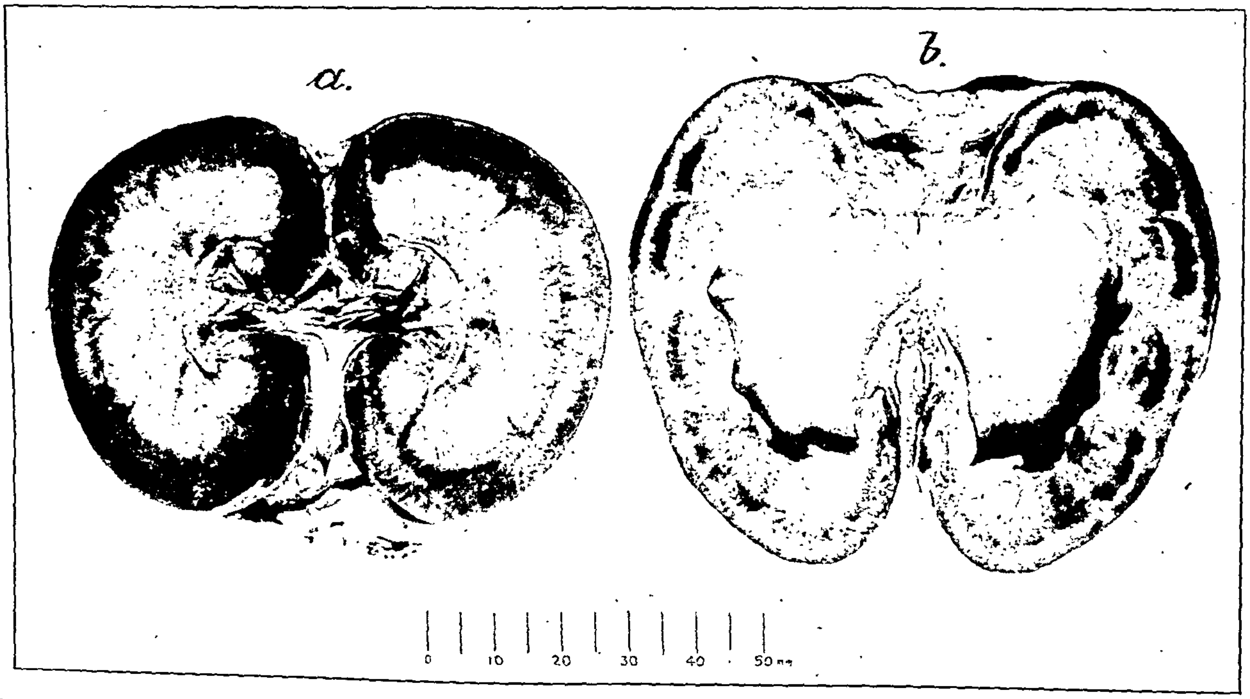

Fig. 1.—Right kidney (*b*) much enlarged and filled with pus (typical pyonephrosis); left kidney (*a*) apparently normal. Experiment 11.

I realize full well that I am addressing a body of men most of whom are doubtless familiar with the work that has already been done in this line of research; and I only regret that my own experimental work has not yielded more of practical interest and value to the clinical surgeon; but as the study of these conditions has been one of peculiar fascination and interest, I present it in the hope that it may be of value.

It is generally conceded that infection may reach the kidney in five different ways:

1. By a direct penetrating wound.
2. By direct extension from a neighboring focus.

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* Experimental work carried out in the Surgical Research Laboratory of the College of Physicians and Surgeons.

* The Oration in Surgery delivered before the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, June, 1911, at Los Angeles, Cal.

3. By catheterization of the ureter.
4. By an ascending process from the lower urinary passages.
5. By the blood-current.

It is with the last two groups, the ascending and hematogenous infections, that this communication will chiefly deal. That the kidney when infected acquires its infection by one or the other of these methods in the overwhelming majority of instances is the opinion of all who have investigated the subject; but as to the relative frequency of these two methods, the causes which determine the one or the other, their unilateral or bilateral character, the acuteness or chronicity of their clinical manifestations, the probable end results of each, as well as their symptomatology, prognosis and treatment, all are subjects on which there has been and is at present considerable difference of opinion.

ASCENDING INFECTIONS—GENERAL CONSIDERATIONS

Long before the days of kidney surgery the occurrence of renal suppuration was frequently observed, and the classical lesions, as pyelonephritis, pyonephrosis, renal abscess and perinephritis, described pathologically and occasionally recognized clinically.

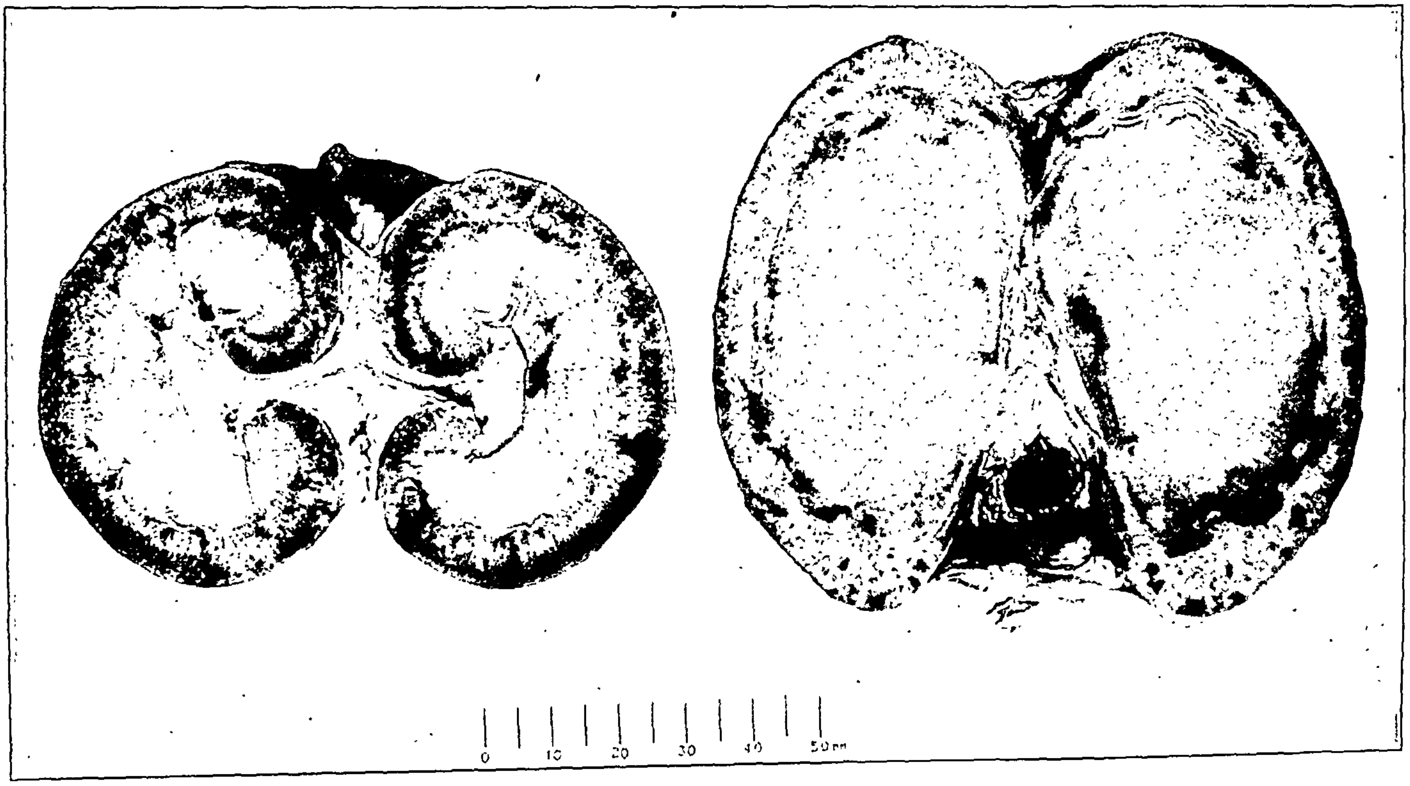

Fig. 2.—Typical pyonephrosis of right kidney. Experiment 12.

As a result of the frequent association in autopsy findings of these lesions with cystitis, and a dilated and inflamed ureter, and the clinical history of many cases in which the symptoms and signs of cystitis preceded by a considerable period the fatal outcome, the opinion prevailed that the kidney infection was invariably due to an extension upward of the inflammation from the bladder by continuity of tissue. With a view to determining the frequency, the factors which favor an ascending infection, and the extent and character of the renal lesions resulting therefrom, considerable experimental research has, from time to time, been undertaken by a number of able investigators, a brief review of which may not be out of place.

In 1890 Guyon and Albarran demonstrated by animal experiments that virulent cultures of pathogenic micro- s injected into the healthy bladder gave rise to no demonstrable lesion in the bladder, ureters or kidneys. If, however, the bladder contamination was associated with urinary retention produced by ligation of the urethra, *an* acute cystitis resulted, with a later infection of the renal pelvis and parenchyma. Zemblinoff sought to explain this ascent of microorganisms through the ureter *during retention*, *by an antiperistaltic action on* the part of the ureteral musculature. This view, explaining as it did the phenomena of ascending infection, was *for a time generally accepted, until* discredited by a second series of experiments by Guyon and Albarran, in which they injected into the bladder inert colored particles of *vegetable charcoal, and various species* of bacteria, and by producing an artificial retention as in the former experiments, noted the results in each series, particularly the relative time necessary for the inert powder and living organisms to reach the renal pelvis.

It was found that, under condition of complete urinary retention, forty-eight hours was necessary to effect the transfer of particles of charcoal powder to the renal pelvis, and even then they were found only in minute quantities; while the living bacteria were demonstrated in considerable numbers in three, nine and a half, and twelve hours from the time of inoculation. This difference the authors ascribed largely to the motility of the organisms, which certain species of bacteria, as the colon bacillus, are known to possess to a very considerable extent.

The length of time which elapsed before the charcoal powder could be detected in the renal pelvis, effectually disproved any real muscular antiperistaltic action. Some years later Ajevoli explained the ascent of inert particles or bacteria in the ureter, under *conditions of* urinary retention, as due to the ordinary laws of hydrodynamics, according to which, while the main current of fluid in the dilated ureter would move slowly downward, countercurrents, eddies, and to a certain extent, to-and-fro movements would be present which would account for the slow *diffusion of* particles contained in the ureteral urine, and their gradual ascent to the renal pelvis.

Following these original experiments, many confirmatory observations were made and published both in France and Germany, among which may be mentioned those of Lewin and Goldschmidt, who demonstrated the ease with which an ascending infection could be produced in rabbits as contrasted with the difficulty in producing it in dogs; and those of Albarran in which he invariably produced the typical picture of a severe ascending pyelonephritis by the injection of pathogenic organisms into the proximal segment of a ligated ureter.

These positive results were produced by a variety of organisms, as the *B. coli*, *Streptococcus pyogenes*, *Staphylococcus pyogenes aureus*, and a liquefying bacillus described by Albarran. In the human subject the colon bacillus undoubtedly plays the most important rôle, for in twenty-five cases reported by Guyon, it alone was responsible for the infection in sixteen instances, while in seven others it was present with other organisms as a mixed infection.

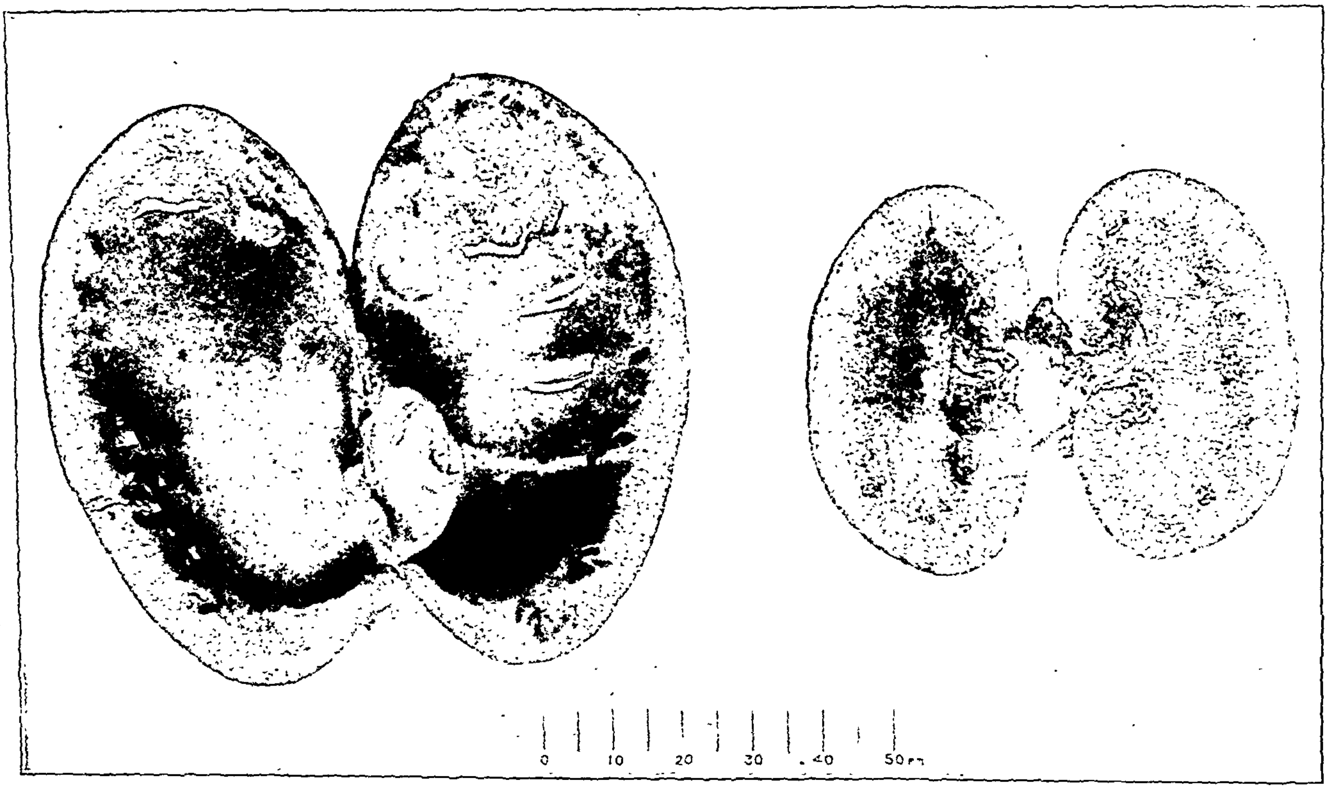

Fig. 3.—Typical appearance of pyonephrosis with extensive destruction of renal tissue. Experiment 13.

In 1898 Rovsing published the results of a series of animal experiments and clinical observations which cast considerable doubt on the importance of the *B. coli* in the causation of renal infection. While admitting that the colon bacillus gave rise to a certain number of comparatively mild infections of the urinary passages, he expressed the opinion that in the great majority of the graver infections, the causative microorganism was one of the pyogenic cocci or some other organism capable of decomposing the urea and giving rise to ammoniacal urine; and this view has been widely accepted by later observers.

In 1894 Coutade and Guyon published the results of an interesting group of experiments, which tended to show that the protection of the kidney against an ascending infection from the bladder, lay in two important factors: (1) the constant downward current in the ureter, which even when a reflux occurred admitting contaminated urine from an infected bladder into the ureter, constantly swept the infected material downward and finally again forced it outward into the bladder; and (2) the protective mechanism of the intravesical portion of the ureter. This by its oblique transit through the vesical wall, and the presence of a girdle of encircling muscular fibers from the bladder wall, allows no backward reflux of fluid from the bladder under normal conditions of bladder rest and contraction. Gradual distention, when unassociated with muscular contractions, even to the most extreme degree, does not permit the ureteral reflux. Distention, even moderate in extent, when associated with muscular contractions, particularly when this muscular contraction or spasm is premature, involuntary, or reflex in nature, does allow an opening of the ureteral orifice and a reflux of bladder urine into the ureter.

Albarran in 1899, reviewing the entire subject, stated that the clinical conditions necessary for the ascent of a given vesical infection to the kidney were: an incomplete urinary retention, from chronic prostatic enlargement, vesical tumor, or urethral stricture; the presence of a new growth, tuberculous ulceration, or some other injury or lesion which mechanically interfered with the normal sphincteric action of the ureteral orifice; or the occurrence of an acute cystitis or some other source of severe bladder irritation, resulting in tenesmus. The comparative rarity of these conditions associated with bladder infection, especially in the young, led Albarran to attribute a considerable number of the renal infections clinically observed, not to ureteral ascent, but to infection through the blood-current (hematogenous infections).

In older subjects, however, with a prolonged history of urethral stricture or prostatic disease, when the vesical dilatation has progressed to such an extent that the ureteral sphincter is wholly inoperative, and the ureters are so dilated as to constitute a single cavity with the bladder, it is *inconceivable* to imagine a bladder infection not ascending to the kidney, for Völcker has reported numerous cystoscopic examinations in which, under these conditions, he has seen particles floating in the bladder fluid aspirated or drawn upward into the ureter by each respiratory movement.

During the past year Stewart, of Philadelphia, has published an interesting series of observations on ascending infections, noted during some experimental studies in intestinal transplantation of the ureters. He calls particular attention to the lymphatic route, and reports several instances in which the infection was evidently carried direct to the perirenal structures resulting in perirenal abscess.

Such, in brief, is the bare outline of the experimental investigations into the pathologic processes giving rise to ascending infections of the kidney. The chief factors of chronic retention, acute retention with spasmodic contraction of the detrusor, mechanical interference with the ureteral sphincter, are the predisposing causes now generally admitted to be necessary for a given vesical infection to ascend to the kidneys. Two other etiologic factors have been mentioned, but have not to my knowledge been proved experimentally; one, the effect of ureteric paralysis from spinal trauma or disease mentioned by von Frisch; and the other, an instantaneous paralysis of the ureteral musculature caused by the entrance of injection fluid into the ureter during vesical irrigation, described by Rothschild. As these are only other methods of forcing the ureteral orifices and depriving the kidney of the protection normally furnished by the ureteral sphincter, and as both seem highly probable in the light of the experimental studies noted above, they can be accepted as rare but possible etiologic conditions.

EXPERIMENTS ON ASCENDING INFECTIONS

During the past winter an experimental study as to the etiology of both ascending and hematogenous infections of the kidney was carried out under my direction at the Surgical Research Laboratory of the College of Physicians and Surgeons, by Dr. John C. Vaughan. Many of these experiments were undertaken simply to verify the conclusions of former experimenters, or with a view to determining the ease or difficulty of producing renal lesions by the ascending process, as compared with another series in which hematogenous infections were studied. The following results bearing on the questions involved in ascending infections gleaned from a much larger number were both interesting and instructive to me and will be reported in detail.

Experiment 1.—Medium-sized fox terrier. Twenty-four-hour slant culture of *B. coli* was mixed with normal saline solution and injected into the bladder through a catheter under aseptic precautions. The dog showed no sign of illness. The urine was clear for one week. At the end of that period the dog was killed and the autopsy revealed no sign of infection of the urinary tract.

Microscopic examination of renal tissue was negative, except for congested vessels. There was blood pigment in epithelium of straight tubules and occasional areas of degeneration.

Experiment 2.—Medium mongrel. Same experiment as in former animal with the exception that the gonococcus was used instead of the colon bacillus. Autopsy at the end of one week was absolutely negative.

Microscopic examination was the same as in the last case, but changes somewhat less marked.

Experiment 3.—Small mongrel. Same experiment repeated with *Streptococcus pyogenes*. Autopsy at the end of one week negative. Microscopic examination of renal tissue normal.

In none of these experiments was there any interference with the normal discharge of urine from the bladder. None of these animals showed the slightest discomfort or illness which could be attributed to the infection, and in no instance did the mucous membrane of the bladder, ureters, or renal pelvis exhibit even the slightest reaction; and while the gonococcus is not under ordinary circumstances likely to produce infection in the urinary passages of the dog, the colon bacillus and the streptococcus are well-recognized causes of such infections. These experiments, therefore, serve to confirm the statements of Albarran and others, that something more than the presence in the bladder of path-

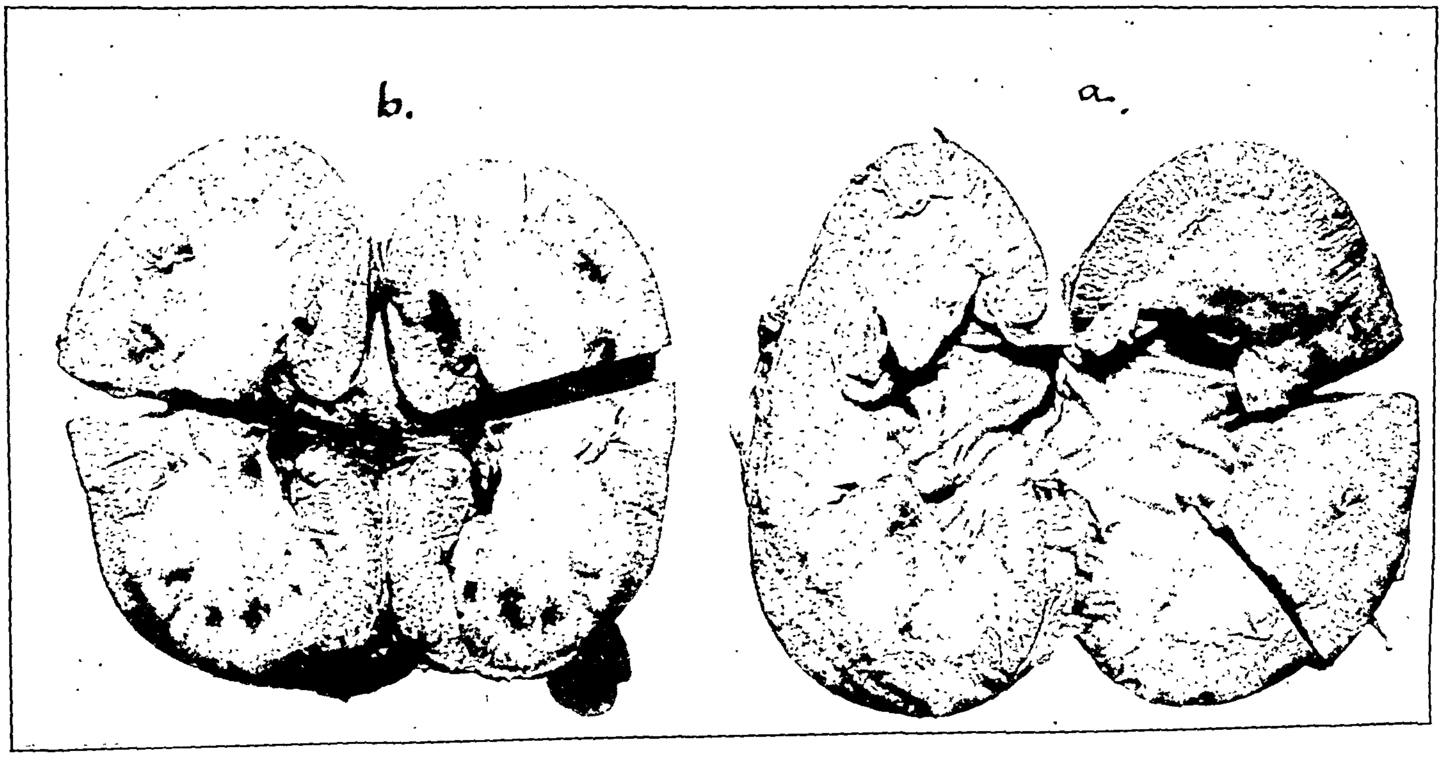

Fig. 4.—Dilated pelvis (*a*); normal kidney (*b*). Experiment 17.

ogenic microorganisms is necessary for the production of a local or spreading infection of the urinary passages.

Experiment 4.—Washings from a twenty-four-hour slant culture of *B. coli* injected into the bladder of a dog, under the same conditions as in Experiment 1, and the urethra ligated for twenty-four hours. The dog showed no sign of illness. The urine when allowed to flow after the removal of ligature was clear. Autopsy ten days later showed no reaction in mucous membrane of bladder, ureters, or kidneys.

Microscopic examination showed only few epithelial tubules undergoing calcification in left kidney. The right kidney was normal.

Experiment 5.—Small mongrel. Same experiment and technic as Experiment 4, with the exception that the streptococcus was substituted for the colon bacillus. The urethra was released after twenty-four hours. Autopsy showed the bladder dilated, wall thickened and edematous, mucous membrane red and swollen. Urine contained pus and blood. The urethra was free, the kidneys were soft and gave signs on gross inspection of acute parenchymatous degeneration. Cultures from the pelvis of the kidney were negative.

Microscopic examination showed chronic diffuse nephritis (old process), slight glomerular degeneration. Ureter showed slight amount of round-cell infiltration.

Experiment 6.—Same as Experiment 5, except that one-half the dose of culture broth was used, and the urethra was ligated for only eighteen hours. The dog seemed sick but lived. Ten days later it was killed and the autopsy showed no gross lesions. The urine was clear.

Experiment 7.—Same as No. 5, except that the gonococcus was employed. The ligature was removed in twenty-four hours. The dog gave evidence of profound infection and died the following day. There had been no voluntary urination, although the urethra was clear. At autopsy the bladder wall was thick and edematous. The mucous membrane showed numerous hemorrhagic areas. The viscus was distended with cloudy urine containing pus and blood, the renal pelvis was distended with purulent urine. The kidneys were soft but normal in size. Cultures from the pelvis of the kidney showed mixed infection, streptococcus and an unidentified bacillus. Smears from the mucous membrane of the pelvis showed no gonococci. There was evidently a mixed accidental infection.

Microscopic examination showed marked hyperemia, calcification of straight tubules, local abscesses, bladder wall much infiltrated with polymorphonuclear leukocytes and submucosa of ureter infiltrated with round and pus cells.

These experiments demonstrate that the combination of a contamination of the bladder with pathogenic organisms, together with an artificial retention of urine for twenty-four hours, in certain instances may give rise to a virulent or even fatal ascending infection.

The next two experiments were undertaken with a view to ascertaining if retention alone without the added element of vesical irritation and probable tenesmus would overcome the normal protective mechanism of the ureteral sphincter.

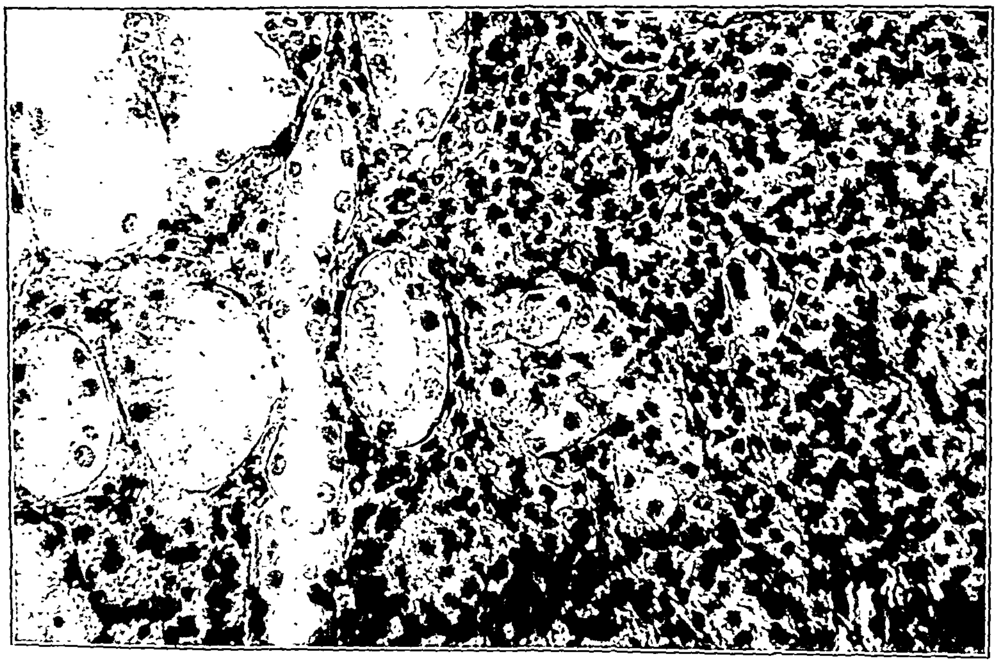

Fig. 5.—Microscopic appearance of section from Experiment 30, showing edge of infarct.

Experiment 9.—A strong solution of methylene blue was injected into the bladder of a dog, and the urethra ligated for twenty-four hours.

Experiment 10.—Same experiment repeated, the ligation being allowed to remain in place for thirty-two hours.

In both instances the autopsy revealed an abundance of dark-blue urine in the bladder, but no blue discoloration or urine in the ureters or renal pelvis.

Experiment 11.—Fox terrier. The right ureter was exposed and ligated near the bladder and *B. coli* injected into the lumen of the ureter above the ligature. The dog appeared well for one week, then grew weak and refused food; it died on the fourteenth day. Autopsy showed the right kidney much enlarged and filled with pus, typical pyonephrosis; left kidney apparently normal (Fig. 1). Heart, liver and spleen showed acute degeneration.

Microscopic examination showed the cortex of the kidney acutely inflamed, many hemorrhages, purulent infiltration, medullary portion filled with pus cells, acute degeneration.

Experiment 12.—Same as No. 2. The dog (a bull terrier) appeared very ill and was killed on the fifteenth day. Autopsy showed typical pyonephrosis of right kidney (Fig. 2). Other organs showed no gross lesions.

On microscopic examination the kidney cortex was found to contain many areas of round-cell infiltration and hemorrhages. The medullary portion showed acute degeneration. The ureter was not inflamed.

Experiment 13.—Same procedure as in last two experiments, with the exception that streptococcus was used. The dog (a small mongrel) was very ill and was killed on fifteenth day. Autopsy gave same typical appearances of pyonephrosis, with extensive destruction of renal tissue (Fig. 3). There was no other gross lesions.

These experiments confirm those of Albarran, and illustrate the importance of ureteral obstruction in the presence of an infected pelvic or ureter.

A number of experiments were next undertaken by the injection of bismuth paste into the renal pelvis or ureters with the hope of producing calculi, but unfortunately these experiments were failures, and will not be recorded. Other experiments were undertaken with a view to determine if trauma to one kidney with infection of the bladder, but without the added element of urinary retention, could result in an ascending process.

In one of these the kidney (Experiment 14) was exposed and almost pulpified by pinching and severely bruising its parenchyma, giving rise to considerable hemorrhage and edema. An injection of the usual amount of *B. coli* solution was made into the bladder; and, the dog remaining in good health, this injection was repeated two days later. Twelve days after the last injection, the dog, being apparently well, was killed and the autopsy revealed no lesion except a blood-clot slightly encrusted with urinary crystals in the pelvis. Cultures from the pelvis were negative. The most noticeable feature of the case was the great amount of repair which had taken place in the injured kidney in twelve days. Microscopic examination was negative, except for scattered areas of inflammation of renal parenchyma.

In another experiment (No. 15) the kidney was exposed and a suture passed through the renal pelvis in several directions, in the hope that this foreign body might serve as the nucleus of a calculus. The bladder was injected with a culture of the *B. coli*, the streptococcus and the gonococcus at intervals of three or four days. The dog seemed slightly ill, but took food well and apparently recovered. Autopsy twenty-nine days later showed a suture about half an inch long on interior of renal pelvis, slightly encrusted with urinary sediment. There had been no leakage and there was no evidence found of renal infection.

In another instance (Experiment 16) the kidney was exposed and after stripping it of its capsule a probe was passed through its substance several times. Bladder injected with culture of *B. coli* and later with streptococcus. Autopsy ten days later. No infection in any part of the urinary tract. Traumatized kidney appeared grossly normal.

In another dog (Experiment 17) the ureter was exposed and ligated two inches below the kidney, producing complete occlusion. *B. coli* and streptococcus were separately injected into bladder. There was no sign of illness or disturbed function. Ten days later autopsy revealed a dilated pelvis and ureter above the ligature, containing clear urine, but no sign of infection (Fig. 4). Cultures and microscopic examination were negative.

In two other dogs (Experiments 18 and 19) small seeds of blue moss were injected into the left renal artery. In one the bladder was injected with *B. coli*, in the other with the streptococcus. Autopsy was performed in each case at the end of one week. The left kidney was found to contain numerous infarcts but no sign of infection. The bladder in the streptococcus case was badly infected. Microscopic examination revealed no signs of infection. In the streptococcus case epithelium of many straight tubules filled with blood pigment granules.

These experiments tend to disprove the view which is not infrequently expressed and which I formerly held, that a *diminished resistance on the part of one kidney* through trauma or disease, favors an ascending unilateral lesion without etiologic elements other than an infected bladder. The importance of even slight traumata in the production of hematogenous infections has been abundantly established, as will be shown later in this report.

Up to the present we have been considering only those infections in which the microorganisms ascend or are carried up to the pelvis of the kidney by the column of urine in the ureter. In the great majority of instances of acute ascending infection, the infection reaches the kidney in this manner, the intervening mucous membrane of the ureter showing but slight or no actual anatomic change. Direct extension along the mucous membrane of the ureter from the bladder upward to the renal pelvis, or by the ureteral lymphatics, is generally admitted, although as late as 1899 Albarran stated that it had not been demonstrated anatomically.

I have not been successful in producing an ascending infection by direct extension along the mucous membrane in animals, although on two occasions when the bladder was infected and an artificial retention produced by ligation of the urethra, there was found a moderate round-cell infiltration of the submucous coat of the ureters.

Regarding the possibility of an ascending infection by the blood-vessels and lymphatics of the ureter, Stewart's experiments are suggestive, although not conclusive, as the ureters had been detached from the bladder and implanted into the bowel.

With a view to creating an ascending infection by the ureteral lymphatics, two experiments were made (20 and 21). In each case the peritoneal cavity was opened and an active culture of the streptococcus was injected into the wall of the bladder near the implantation of the left ureter. No apparent reaction occurred and, ten days later, the animals were killed. Autopsy in each case revealed inflammatory adhesions at the site of the injection. In one case the ureter appeared normal, and microscopic examination showed no inflammatory lesion; in the other the ureter was somewhat thickened, and the microscopic examination revealed a very marked round-cell infiltration in the peri-ureteral tissues. There was no gross lesion in either kidney.

A combination of these two methods of the ureteral ascent of infection, is occasionally seen clinically, as the following example will show.

An elderly woman convalescent from typhoid fever but suffering from a cerebral lesion with extremely obscure symptoms, was examined by me and submitted to an exploratory operation. Up to the time of operation there was no retention and no sign of bladder infection. Following the operation she suffered from retention and was catheterized on two or three occasions. Shortly thereafter she suffered from a severe cystitis with marked tenesmus and bloody urine. Rapid prostration followed and she died within ten days. At autopsy, in addition to the cerebral lesion, the bladder was found to be in a state of acute inflammation with a large gangrenous sloughing ulcer in the region of the trigone and ureteric orifices. The left ureter and peri-ureteral tissues were markedly edematous, with a gangrenous inflammation of the mucous membrane extending to and involving the entire renal pelvis. The kidney was completely destroyed by purulent infiltration. The right ureter was similarly affected in its lower segment, but the inflammatory changes gradually diminished and on gross inspection ceased before reaching the kidney. The right kidney showed extensive cloudy swelling of its cortex. There was no sign of infection of the operative wound which had healed primarily.

While most of us have seen occasional examples of this type of ascending infection, it is certainly rare as compared with that type in which the microorganisms ascend directly by the column of urine to the renal pelvis; and in this connection I feel compelled to take issue with Stewart, who expresses the belief that in ascending infections the route taken is more frequently a roundabout one through the lymphatics than the direct ascent of the organisms through the ureteral lumen.

From a review of the known pathologic evidence and the experimental investigations of others, and from our own animal research studies and clinical experience, I feel that we are justified in making the following statements:

1. An ascending infection is responsible for a certain proportion of the acute surgical infections of the kidney.

2. In the great majority of such instances, the infectious material is carried upward to the kidney by a reflux of contaminated urine into the ureter and renal pelvis through the ureteral orifice, as the result of some interference with its protective mechanism. The factors which favor this process are, in the order of their impor-

tance: (A) a chronic obstruction to the normal bladder outflow, as urethral stricture, obstructive prostatic hypertrophy, prostatic or vesical new growth; (B) acute cystitis with severe tenesmus and violent expulsive efforts; (C) severe inflammation, ulceration, calculus or new growth involving the ureteric orifices, interfering with the normal sphincteric action; (D) ureteral and detrusor paralysis from spinal injury or disease; and (E) the possible temporary paresis of the ureteric sphincter by the passage of a large ureteral calculus.

3. In certain rare instances the process may occur by a direct extension of the inflammation along the mucous membrane of the ureter by continuity of tissue, as proved by numerous clinical observations, although I have been unable to reproduce it in animal experiments.

4. In other rare instances the infection may ascend by the ureteral or peri-ureteral lymphatics, and this is more likely to occur if there exists an infection in the deep structures of the bladder wall involving the vesical lymphatics; and

5. As stated by Legueu, these methods in certain cases may be combined and concomitant.

HEMATOGENOUS INFECTIONS—GENERAL CONSIDERATIONS

This group of cases constitutes by far the most interesting series in all renal pathology, embracing as it does, cases illustrating the greatest variety in regard to etiologic factors, and the greatest difference in virulence, symptomatology, prognosis, and therapeutic indications.

The frequent association in autopsy findings of renal suppuration with cases of pyemia, septicemia, erysipelas, endocarditis, and other fatal septic conditions, had been observed by pathologists for many years before its significance was appreciated.

It was perhaps Lannelongue who, after observing this association in seven out of ten fatal cases of osteomyelitis, first emphasized the importance of renal infection through the blood-current, independent of the fatal general blood infections.

EXPERIMENTS ON HEMATOGENOUS INFECTION

The following report of the next sixteen experiments is quoted from my original communication, and while it does not include all of the experiments, it comprises all which exhibited definite lesions and in which microscopic examinations were made. As will be seen from the protocols, an effort was made in each experiment to lower the resistance of one kidney, either by trauma, the introduction of a foreign body, or the production of an artificial hydronephrosis.

Experiment 22.—Small black rabbit. Ether. Right kidney exposed by lumbar incision. Right kidney delivered and bruised with fingers. Wound united with silk and sealed with a cotton and collodion dressing. Two cubic centimeters of a streptococcus culture injected into ear vein. Control animal injected with same amount, but without injury to the kidney. Neither animal seemed to suffer from the experiment. Both killed on the fourteenth day. No gross lesions found on autopsy. On microscopic examination of the four kidneys, only hyperemia and slight degeneration, revealed, most marked in injured organ.

Experiment 23.—Large white-and-brown rabbit. Ether. Right kidney exposed and bruised, as in Experiment 1. Two cubic centimeters colon culture solution injected into ear vein. Control animal injected without injury to the kidney. Death of both animals in twelve hours from acute toxemia. At autopsy no gross lesions found. Microscopic examination negative as to surgical lesions.

Experiment 24.—White rabbit. Ether. Right kidney exposed and bruised; 1 c.c. virulent typhoid culture (from a fatal case of typhoid septicemia) injected into ear vein. Control animal injected without injury to kidney. Death of injured animal on fifth day from general sepsis. Abscess in lower pole of injured kidney, which had broken through and given rise to a perinephritic suppuration. In opposite kidney a single hemorrhagic infarct. Well-marked peritonitis present (culture negative), and other evidences of acute septicemia. Control animal killed; no gross lesions presented. On microscopic examination of injured kidney, multiple bacterial emboli seen in vessels, especially of glomeruli; surrounding these, more or less extensive areas of necrosis and inflammation. Entire kidney markedly hyperemic. Mild parenchymatous degeneration. In opposite kidney, a single large wedge-shaped hemorrhagic infarct extending to the surface of the kidney. Infarct area necrotic, presenting numerous bacterial emboli; separated from neighboring healthy kidney tissue by thick wall of leukocytes.

Experiment 25.—Brown rabbit. Ether. Right kidney exposed and bruised. One-half centimeter same colon solution as in Experiment 2 injected into ear vein. Control rabbit injected without injury to the kidney. Death of injured rabbit on seventh day. At autopsy lesion of injured kidney revealed. Opposite kidney apparently normal. Control animal killed. No lesions. On microscopic examination of injured kidney, single sharply circumscribed abscess in cortex found, midway between pelvis and external border. In opposite kidney, slight hyperemia of glomeruli.

Experiment 26.—Grey-and-white rabbit. Ether. Right kidney exposed and bruised. Two cubic centimeters streptococcus solution injected into ear vein. Control animal injected without injury. Death of injured rabbit on sixth day of sepsis. Ulcerative endocarditis found, and other viscera congested. Right kidney surrounded by hematoma and mass of fibrin. Hemorrhagic and necrotic area in lower pole. Parenchymatous degeneration. Opposite kidney showed only cloudy swelling. Control animal killed. No lesions.

Experiment 27.—Black rabbit. Ether. Left kidney injured by blow on lumbar region. Two cubic centimeters of *Staphylococcus pyogenes aureus* injected into ear vein. Animal killed at the end of sixteen days. Autopsy showed large septic infarct. Right kidney apparently normal. Microscopic examination of injured kidney. In addition to infarct, the cortex was studded with a number of small abscesses about four times the size of a glomerulus. Well-marked round-cell infiltration in stroma surrounding abscesses. Slight cloudy swelling. Right kidney, slight cloudy swelling.

Experiment 28.—White rabbit. Ether. Left kidney injured by external blow. Two cubic centimeters of typhoid in ear vein. No evidence of gross illness. Animal killed on sixteenth day. Injured kidney presented subcapsular hemorrhage. Large hemorrhagic infarct, with abscesses at base. On microscopic examination, extravasation of blood found beneath capsule of left kidney. Large wedge-shaped area of necrotic parenchyma, containing several bacterial masses. Moderate leukocytic infiltration. Right kidney normal.

Experiment 29.—Large white rabbit. Ether. Left kidney injured by external blow. Two and a half cubic centimeters pyocyaneus solution injected into ear vein. Death of animal in twenty-four hours. Left kidney deep red color, surrounded by blood-clot. Right kidney apparently normal. On microscopic examination of injured kidney, acute exudation nephritis found, with extensive destruction of convoluted tubules. Glomerular tufts compressed by albuminous exudate within capsule of Bowman. Extensive blood extravasation throughout parenchyma. Opposite kidney hyperemic, with parenchymatous degeneration.

Experiment 30.—Large white bull terrier. Ether. Right kidney exposed by lumbar incision. Pelvis of kidney injected with a pasty mass of bismuth subnitrate mixed with glycerin and water. One and one-half cubic centimeters colon solution injected into ear vein, animal becoming markedly ill. Killed on seventh day. Autopsy showed right kidney adherent to liver, colon and omentum by inflammatory exudate. Capsule very much thickened. On removal of capsule, two large triangular infarcts and several embolic foci seen on surface. Left kidney normal in appearance. On microscopic examination of right kidney, large triangular areas of intense hyperemia seen with extensive purulent infiltration. Necrosis of tubular epithelium (Fig. 5).

Experiment 31.—Large brown mongrel dog. Ether. Right kidney exposed. Ureter ligated. Bismuth mixture injected into parenchyma. One cubic centimeter colon solution injected into ear vein, animal showing marked evidence of illness at the end of twenty-four hours. Killed on seventh day. At autopsy right kidney found to be surrounded by perinephritic abscess. Capsule greatly thickened. On removal, surface of the kidney seen to be studded with innumerable embolic foci. Left kidney normal in appearance (Fig. 6). Heart, lungs, liver, spleen, pericardium and peritoneum normal. Microscopic examination of right kidney, profuse purulent and fibrinous exudate on capsule. Beneath capsule, numerous bacterial emboli surrounded by necrotic areas, which are infiltrated with masses of pus cells forming multiple abscesses. Left kidney hyperemic. Moderate cloudy swelling.

Experiment 32.—Large brown rabbit. Ether. Right kidney bruised by blow on parietes. One cubic centimeter pyocyaneus injected into ear vein. Death in twenty-four hours. No pus lesions found at autopsy. Microscopically, in both kidneys extensive hyperemia and parenchymatous degeneration found.

Experiment 33.—Large black-and-white rabbit. Ether. Right kidney bruised by blow. Four cubic centimeters *Staphylococcus pyogenes aureus* injected hypodermically, animal becoming ill on third day. Killed on seventh day. Autopsy: In both kidneys, multiple septic infarcts present. Other organs normal. On microscopic examination, multiple small abscesses with parenchymatous degeneration found in both kidneys. Somewhat more marked change in injured kidney.

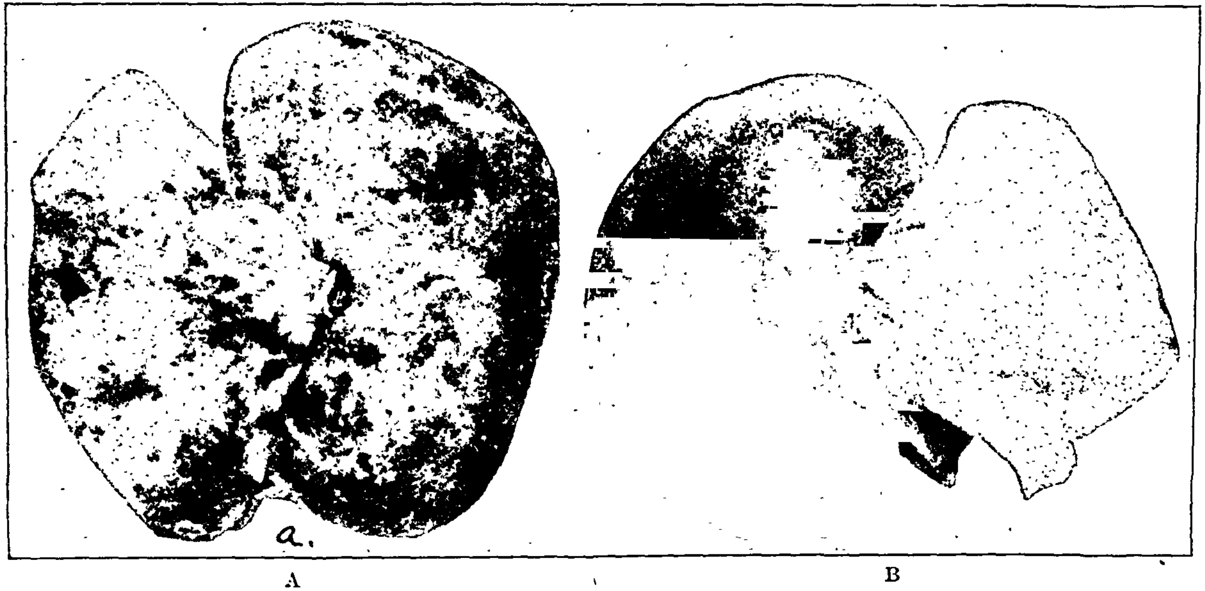

Fig. 6.—Diseased kidney (a) and healthy kidney (b), from dog. Experiment 31.

Experiment 34.—Small brown rabbit. Ether. Right kidney bruised by blow; 1.5 cm. streptococcus solution injected into ear vein. Animal died on fifth day. Autopsy: right kidney hemorrhagic infarct; left kidney normal; other organs normal. Microscopic examination of right kidney showed hemorrhagic infarct, with numerous bacterial emboli in surrounding necrotic area. Left kidney normal, except for a few deeply stained small areas near one papilla, probably bacterial emboli.

Experiment 35.—Small brown rabbit. Ether. Right kidney bruised by blow. One half cubic centimeter typhoid injected into ear vein. Animal killed on seventh day. No gross lesion of kidneys, except subcapsular hemorrhage in injured organ. Microscopic examination revealed hyperemia and degeneration, most marked in right kidney.

Experiment 36.—White rabbit. Ether. Left kidney bruised by blow. Two cubic centimeters typhoid injected into ear vein. Animal killed on seventh day. No gross lesion found at autopsy. On microscopic examination, parenchymatous degeneration of injured kidney seen. Opposite kidney normal.

Experiment 37.—Brown rabbit. Ether. Left kidney injured by blow on flank. Four cubic centimeters pneumococcus broth injected into ear vein. Death in thirty-six hours. At autopsy, right kidney apparently normal. Left kidney acutely congested. Subcapsular hemorrhages. Numerous areas of parenchymatous hemorrhage throughout cortex. On microscopic examination, cortex found studded with minute areas of extravasated blood. In and about these areas are seen very numerous groups of diplococci, some occupying region of tubules, the epithelium of which has undergone marked degeneration. On the periphery of these areas, masses of diplococci may be seen filling the lumen of the capillary vessels. Well-marked exudation of pus-cells surrounding these areas and in the stroma (Fig. 7). Right kidney showed marked hyperemia and cloudy swelling.

A review of these experiments will show that none of the control animals which had received a moderate dose of pathogenic bacteria directly into the circulation without other injury developed a surgical lesion of the kidney. Of the sixteen animals which, in addition to the inoculation, received an injury to one kidney, five showed no lesion, or only hyperemia and parenchymatous degeneration. Two of these animals died within twenty-four hours, of acute septic intoxication. Of the remaining eleven, all developed distinct surgical lesions of the kidney. In eight the lesions were unilateral, and limited to the injured kidney. In three, the lesions were bilateral. In one of the bilateral cases the lesions were practically equal in extent and in severity. In the other two, the lesions in the injured kidney were mild in character, and they undoubtedly would have recovered under favorable conditions.

The following experiments were undertaken to determine the effect of a more or less complete anemia in lowering the resistance of a kidney to a blood infection.

Experiment 38.—Small mongrel dog. Left kidney exposed and renal artery diminished in caliber by incomplete ligature. Pulsations, however, could still be felt in kidney. *B. coli* injected into ear vein. Dog apparently free from evidences of illness. Autopsy one week later revealed large abscess in upper half of kidney with strong colon odor. Opposite kidney and other organs negative. Microscopic examination: Local abscess, kidney parenchyma infiltrated with leukocytes. Acute degeneration. Right kidney normal, except for scattered hemorrhagic areas.

Experiment 39.—Small mongrel. Left kidney exposed and renal vein ligated. *B. coli* injected into ear vein, dog becoming sick and weak; blood passed in urine. Autopsy at end of seven days; left kidney completely destroyed by purulent infiltration and necrosis. Strong colon odor. Opposite kidney and other organs negative. Microscopic examination: Left kidney, acute degeneration of parenchyma; purulent infiltration and abscess formation. Right kidney, nearly normal; slight hyperemia; scattered areas of extravasated blood.

Experiment 40.—Small mongrel. Left renal artery tightly ligated. *B. coli* injected into ear vein. No sign of illness.

Autopsy at end of one week. Left kidney shrunken and anemic. A number of small abscesses in cortex, probably due to some small anastomosis or aberrant artery. Opposite kidney and other organs negative. Microscopic examination: In left kidney, acute parenchymatous degeneration: infiltration with leukocytes. In right kidney, only slight congestion of vessels.

Experiment 41.—Fox terrier. Left kidney exposed and upper branch of renal artery tied. *B. coli* injected into ear vein. No sign of illness. Autopsy one week later showed upper posterior half of kidney shrunken and anemic. One small abscess on outer surface. Opposite kidney and other organs negative. Microscopic examination: Medullary portion undergoing degeneration. Cortex infiltrated with leukocytes. Numerous hemorrhages filled with deeply staining tortuous areas, probably calcified tubules. Right kidney normal.

These cases illustrate the fact that anemia and passive hyperemia so lower the resistance of the organ to a blood infection as to result in definite surgical lesions. In this connection it is interesting to recall the experiments of Lucas and Burton-Opitz, who demonstrated that under conditions of increased pressure in the renal pelvis and ureter, the renal circulation was greatly diminished, for it explains the marked susceptibility to infection in cases of hydronephrosis.

A number of other experiments were undertaken to determine the effects of small inert emboli, in the production of surgical lesions by means of a blood infection.

The minute seeds of blue moss were employed. In nine instances (Experiments 42 to 50) these were injected into the general arterial circulation, and the animals subsequently inoculated as in the other experiments. All of these dogs died, most of them from symptoms of shock, probably due to cerebral infarcts. One had an acute hemorrhagic pancreatitis, while two showed a very few renal infarcts, but without evidences of sepsis. It is probable in these cases that only a few seeds reached the kidney and the damage done was not sufficient to lower its resistance in any great degree.

I regret that there was not sufficient time at my disposal to follow up this line of inquiry by further experimental study, as it might have a practical bearing on the probability of reinfection of a kidney which had recovered from a previous mild attack of infarcts.

In reviewing the microscopic study of the lesions produced in these experiments, definite lesions, where present, were found identical with those found in our clinical cases of hematogenous infections. In most instances they were found to be due to a plugging of the smaller arteries and capillary vessels with groups of organisms. These minute emboli are later surrounded by an encircling zone of round-cell infiltration. Where the larger trunks are thus involved, triangular infarcts are present; where the capillaries only are involved, minute abscesses are seen throughout the cortex and beneath the capsule. If the process is allowed to go on, the bacterial emboli are rarely recognized; only areas of necrosis and purulent infiltration are found. At a still later stage many of these collections of pus coalesce, forming larger parenchymatous abscesses, which may rupture through the capsule, giving rise to a perinephritis, or into the pelvis, giving the typical picture of pyelonephritis. In some of the cases, the condition has been described as an acute, purulent, interstitial nephritis. In my opinion, all of these appearances are but different stages of the same process.

From a study of the experimental data here recorded, the results obtained by other investigators, and the accumulated clinical experience of the past two decades, we may conclude, first, that during the progress of any acute infectious disease a certain number of microorganisms find their way into the blood-current, and that many of these organisms are excreted through the kidneys. If the number of these organisms is comparatively small, if their virulence is low, and if the kidneys are in a healthy condition, the transit of these organisms through the renal apparatus gives rise to no demonstrable lesion. If, on the other hand, the number of the organisms is large, if their virulence is high, or if one or both kidneys are diseased, lesions are produced which have been described above, and which may, at the outset, produce an overwhelming and fatal toxemia, or may precede more slowly to the development of any of the classical types of renal infection or suppuration; second, that while the disease may be bilateral, in a large number of instances it is unilateral, and that its unilateral character is due to the fact that the affected kidney has lost to some extent its normal resistance to infection, by trauma, abnormal mobility, previous disease, calculus irritation, anemia, passive hyperemia, complete, incomplete, or intermittent hydronephrosis; third, that the presence in the body of a kidney damaged by trauma or disease to such an extent as to lower its normal resistance to infection, is a distinct menace to the individual, in that it possesses a potential susceptibility to even the mildest forms of blood infection; fourth, that while I have been able to produce these lesions in animals by the *B. coli*, the *Streptococcus pyogenes*, the *Staphylococcus pyogenes aureus*, the *B. typhosus*, the pneumococcus, and the pyocyaneus; in clinical cases I have only been able to isolate the first four of these organisms. It may be added, however, that in a number of clinical cases, the results of my bacterial investigations have been negative, notably in one instance in which the disease was known to be a sequel of scarlet fever.

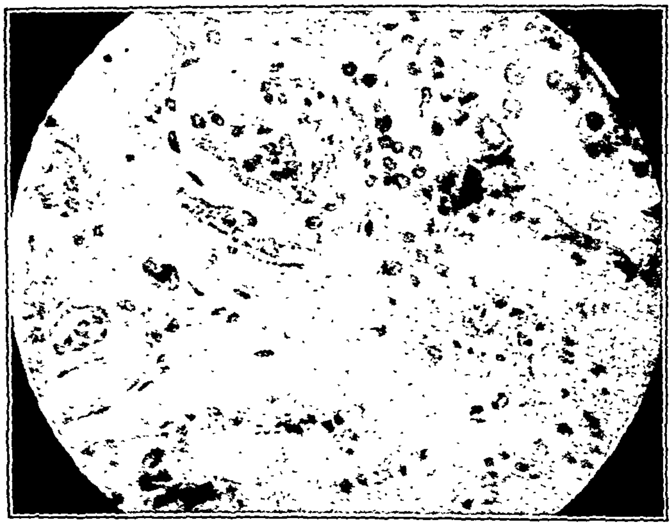

Fig. 7.—Microscopic appearance of section shown in Experiment 37. (High power.)

From this clinical and experimental study of these two types of renal infection, namely the ascending and the hematogenous, I have been impressed with the great difficulty in producing in animals an ascending nephritis, which is in marked contrast to the ease with which it is possible to induce a hematogenous infection. This would seem to corroborate my impression derived from clinical observation, that hematogenous infection was responsible for the greater number of cases of renal sepsis; and would tend to establish the fact to which Israel and others have already called attention, that even in septic conditions of the lower urinary passages, the concomitant renal lesion may be of hematogenous origin.

61 West Forty-Eighth Street.

enclosed several large, irregularly oval spaces, as in Mibelli's case, some of which were filled with blood coagulum, while others were empty. The majority of these cavities were oblong in shape, the long axis being parallel with the surface of the skin, and many were traversed by one or more septa. There were chronic inflammatory changes, consisting of copious leukocytic infiltration, marked fibrosis, and general dilatation of the blood-vessels, in the papillary and subpapillary layers.

In Fordyce's[7] case the eruption was confined entirely to the region of the scrotum. The patient was a man of 60, and there was no appreciable vascular disturbance other than a double varicocele, which had been present for several years. On the body were several patches of leukoderma, a coincidence which was also noted in Zeisler's[8] case. There was no history of chilblains. Microscopically, the lesions consisted of lacunar spaces, lined with a thin layer of connective tissue, and filled with blood. These cavities occupied the papillary portion of the derma, although some of them were completely enclosed in the rete Malpighii. At various points in the epidermis, which was but slightly thickened, tiny lacunæ were found, but while these contained numerous blood-corpuscles, their lining was unorganized, and consisted only of disintegrated epithelial cells.

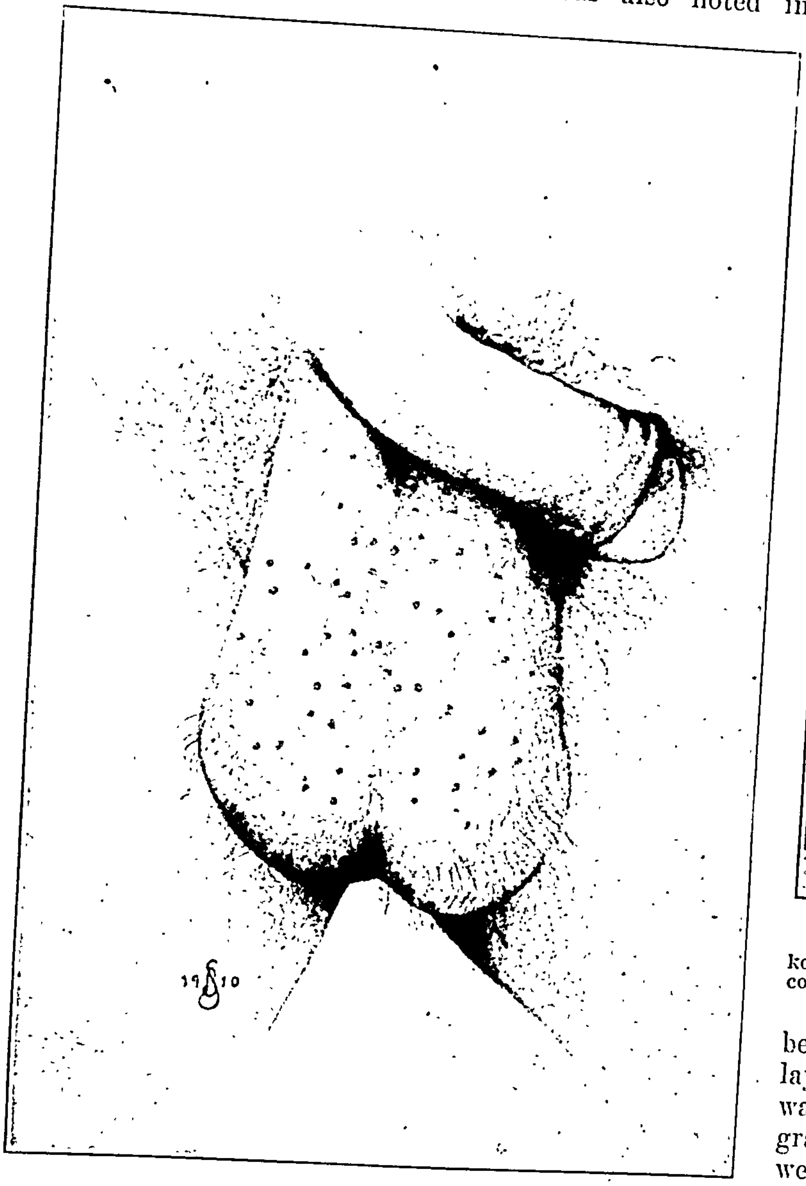

Fig. 2.—Case 2. Distribution of angiokeratomatous lesions on the scrotum.

Beneath the lower margin of the rete there was round-cell infiltration, with dilatation of the capillaries, and deposition of blood pigment.

Anderson's[9] patient was a man, aged 39, and there was a history of rectal hemorrhages, and albumin in the urine. There was also present a congenital deformity of the hands, a peculiarity also noted in a mother and sister, and in three out of four of the patient's own children, similar to that seen in Dubreuilh's case. The eruption was distributed over the trunk, limbs and genitals, and the lesions, which varied in size from a pin-point to a hemp-seed, were of the characteristic purplish-red color, and showed no tendency to coalesce. On section, the papules were found to present a dilatation of the capillaries of the papillary layer, the enlargement of the lumen of the vessel reaching its maximum near the rete, there assuming a more or less spheroidal form, with resulting atrophy, and sometimes complete disappearance of the superjacent Malpighian layer of the epidermis, while the cuticle was either thinned or remained unchanged. The interpapillary processes were hypertrophied. Some of the larger vascular spaces were subdivided by septa.

Judin[10] has described a rather unusual case, occurring in a man 23 years of age. The disease involved the first and second fingers of the left hand, and had been present for almost fifteen years. The corneous layer was thickened, but contained no cavities, and there was no serous exudation in the epidermis. The stratum granulosum was hypertrophied, and some of the papillæ were greatly increased in size. The lacunæ, which lay mostly in the upper corium, were much larger than those commonly found in this malady. The surrounding connective tissue was dense, without infiltration. Elastic fibers appeared in the superficial layers in small amount. The caliber of the sweat-gland ducts was narrowed, but the canals persisted. A photograph of the affected hand shows that the lesions more nearly resembled those of angioma than those of angiokeratoma, and, taking into consideration the pathologic findings, it is very probable that the case was an anomalous one of the former disorder.

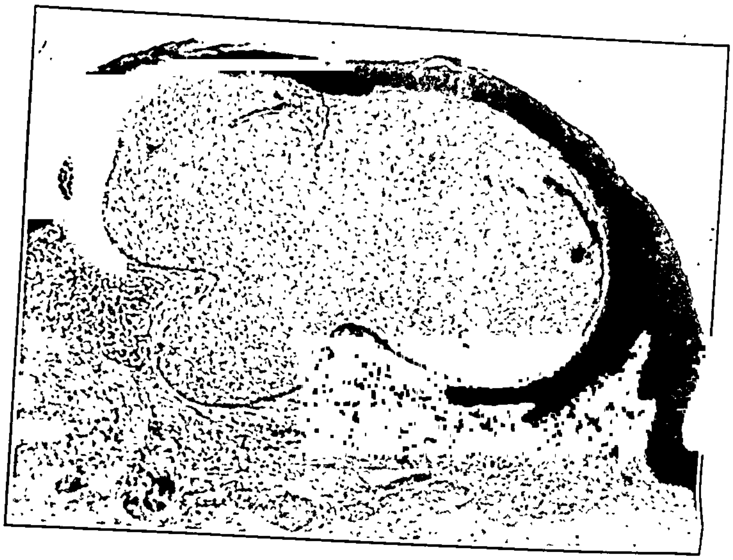

Fig. 3.—A typical angiokeratomatous lesion, showing slight keratoses, elongated interpapillary processes and changes in upper corium. (Spencer Obj.: ¼; no ocular.)

Guiellot[11] has reported, under the title "Lymphangiectasie du Scrotum," an example of angiokeratoma of the scrotum in a man 30 years of age, the eruption appearing subsequent to an operation for a tumor of the left thigh.

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[7] Fordyce: Jour. Cutan. Dis., 1896, p. 81.

[8] Zeisler: Tr. Am. Dermat. Assn., 1893.

[9] Anderson: Brit. Jour. Dermat., 1898, p. 113.

[10] Judin: Dermat. Ztschr., 1908, p. 36.

[11] Guiellot: Bull. et mém. Soc. de chir. de Paris, xxxiv, 237.

Buschke's[12] case of angiokeratoma of the scrotum was seen in a man of 58, and there was also present a prurigo of Hebra, which had first appeared one year previously.

In addition to the reports here reviewed, valuable contributions to the subject of angiokeratomata in general have been made by Crocker,[13] Audry,[14] Piffault,[15] Escande,[16] Renault,[17] Joseph,[18] Glawtsche,[19] Wisniewski,[20] Pautrier,[21] de Beurmann and Gougerot,[22] Frohwein,[23] Malinowski,[24] Dore,[25] Beck,[26] and others.

During the past year, I have had under observation two typical examples of angiokeratoma of the scrotum.

CASE REPORTS

Case 1.—*History.*—C. P. C., physician, aged 61, was referred to me by Dr. F. M. McCallum, of Kansas City. The cutaneous history of the family is negative. The patient is a native of Texas, and a resident of Missouri. He has never had a venereal disease. His general health has been good, with the exception of renal calculus, and, more recently, a small, nodular tumor of unknown nature in the right testicle. His circulation has always been excellent. He has never had chilblains. The superficial capillaries of the scrotum have been dilated and prominent for fifteen years, and the skin lesions have been present for about twelve years. The tumors have increased in number from time to time, and none of them have ever disappeared spontaneously.

Examination.—The patient is a well-built and fairly well-preserved man, 5 feet and 9 inches in height, and weighs 210 pounds. The skin on the trunk and limbs is smooth and unmarked. The integument covering the scrotum is somewhat thinner than usual, and there is a hard, knobby mass on the right testicle, in the region of the epididymis. The superficial scrotal veins are dilated, and distributed irregularly along their course are a number of hard, purplish, oval-topped, shiny papules, varying from the size of a mustard-seed to that of the head of an ordinary pin. When the peripheral circulation is obstructed by constricting the neck of the scrotum, the little growths become somewhat more prominent, although the increase in size is very slight.

Two of the tumors were excised for histologic examination, but owing to the clumsiness of a nurse the material was lost, and I have not yet succeeded in persuading the patient to submit to a second biopsy.

Case 2.—*History.*—A. M. J., farmer, aged 64, was referred to my associate, Dr. J. P. Kanoky, and me by Dr. R. E. Chaffin, of Belton, Mo. The patient sought relief from a pruritus of the anal region, and it was while treating this condition that I discovered the angiokeratoma on the scrotum. The cutaneous history of the family is negative. The patient is a native of Kentucky, and a resident of Missouri. He denies ever having had a venereal disease. His general health has always been excellent. He has never suffered from coldness of the extremities or attacks of chilblains, but has had a double varicocele for the past twenty years. The patient was entirely unaware of the dilated condition of the superficial capillaries of the scrotum, or of the presence of the accompanying tumors until I drew his attention to them.

Examination.—The patient is a large, powerfully built individual, over 6 feet in height, and weighs 208 pounds. On the right eyeball, at a point just below and to the right of the cornea, is a sharply outlined, oval-topped, shiny, purplish pin-head-sized tumor. It has been present several years, and has given rise to no subjective symptoms, although the surrounding conjunctiva is red and congested. The hands and feet are unaffected, and there are no lesions of any kind on the trunk. Numerous varicose veins are to be seen on both legs. The scrotum is elongated, and there are present many dilated superficial veins. There is a well-marked double varicocele. Scattered over the anterior surface and sides of the organ are a number, about one hundred in all, of the minute, hard, nodular, purplish tumors characteristic of angiokeratoma. In some of the lesions the blood has coagulated and undergone degenerative changes, as only a small mass of dark, gritty material is exposed when the tumor is incised. In others, however, a drop of venous blood exudes when the overlying epidermis is punctured.

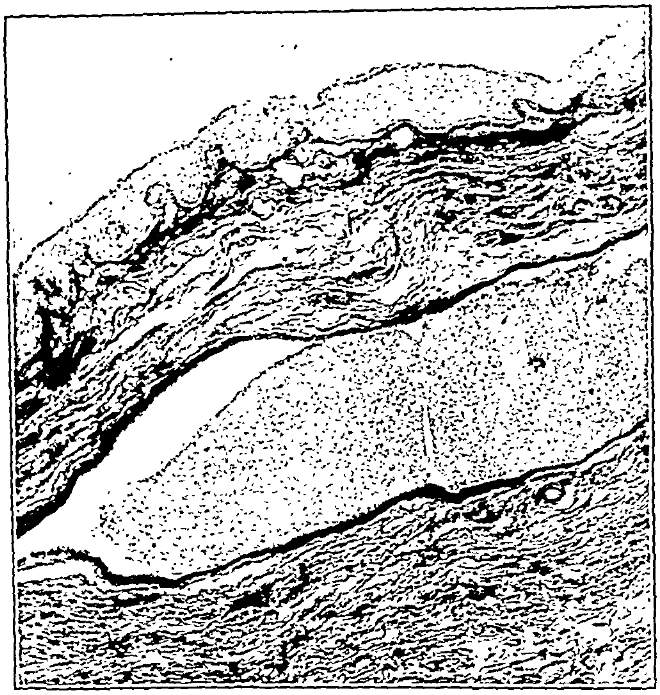

Fig. 4.—Section of normal skin from scrotum, showing character and distribution of elastic tissue (Weigert). (Spencer Obj.: 1/4; no ocular.)

Microscopic Examination.—For laboratory purposes, eleven of the lesions were at various times excised, no anesthetic being employed. The growth on the eye, which was successfully removed by Dr. Chaffin, was also examined histologically and the clinical diagnosis verified. The pieces of tissue were fixed in formaldehyd solution or in alcohol, and a number of serial sections, about 600 in all, were studied. For staining purposes, methylene blue, hematoxylin, hematoxylin-eosin, and Gram-Weigert were used, with Unna's orcein, and Weigert's mixture for elastic tissue. For comparison, normal skin from the scrotum, obtained post-mortem, from a man 60 years of age, and the subject of a double varicocele, was employed. With the ordinary tissue stains, the changes noted were in every respect almost identical with those described by Mibelli, Pringle, and particularly Fordyce; oval or kidney-shaped, connective-tissue-lined and blood-filled lacunæ in the papillary portion of the derma, in some instances almost or wholly surrounded by cells from the hypertrophied rete Malpighii, and, occasionally, partly or completely divided into two or more compartments by thin, delicate fibrous septa; a slightly hypertrophied corneous layer, containing a few irregularly shaped, débris-lined cavities, filled with red or white corpuscles; a few malformed coil gland-ducts; elongated interpapillary processes and dilated capillaries, with fibrosis and leukocytic infiltration in the upper corium. As compared with normal skin, the

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12. Buschke: Dermat. Ztschr., x, 193.
13. Crocker: Brit. Jour. Dermat., November, 1891.
14. Audry: Ann. de dermat. et de syph., 1893, p. 381.
15. Piffault: Thèse de Paris, 1892.
16. Escande: Thèse de Toulouse, 1892.
17. Renault: Ann. de dermat, et de syph., 1894, p. 1248.
18. Joseph: Dermat. Ztschr., 1893, p. 16.
19. Glawtsche: Behandl. der Moskauer dermat. u. vener. Gesellsch., Nov. 13, 1898.
20. Wisniewski: Arch. f. Dermat. u. Syph., 1898, p. 357.
21. Pautrier: Arch. f. Dermat. u. Syph., 1904, p. 376.
22. De Beurmann and Gougerot: Ann. de dermat. et de syph., 1905, p. 875.
23. Frohwein: Monatsch. f. prakt. Dermat., 1906, p. 245.
24. Malinowski: Monatsch. f. prakt. Dermat., 1907, p. 439.
25. Dore: Brit. Jour. Dermat., 1903, p. 23.
26. Beck: Monatsch. f. prakt. Dermat., 1909, p. 349.

epidermis at the apex of the lesion was considerably thickened, although not nearly so much as in similar tumors occurring on the hands and feet. In the sections stained for elastic fibers there was a striking difference between the normal integument used as a control and the angiokeratomatous tissue. In the former, the elastic filaments were long, wavy, and sharply defined, and stained evenly and well. Surrounding the vessels there was a close, almost solid network of fibers, the appearance presented being suggestive of a small tube, snugly encircled by numerous turns of fine wire and passing at right angles through a mass of similar material, the strands of which closely encircled and intermingled with those forming the outer covering of the cylinder. In the affected skin, elastic tissue was to be found in all of the regions in which it usually occurs, but the fibers were short, fragmentary, and irregularly arranged, and apparently furnished very little support to the vessel walls. The coats of the capillaries appeared to be normal, but the surrounding network of "braces and guy-ropes," which was so prominent a feature in the control sections, was almost entirely lacking. This held true not only in the immediate vicinity of the tumors, but in the macroscopically normal areas as well. In those sections which contained lacunæ, the elastic tissue immediately surrounding the vessel was apparently normal in amount, although comparatively thinned because of the increased diameter of the capillary; but the short, slender, poorly stained strands in the immediately adjacent areas appeared even less numerous and weaker than those in the more remote parts of the interlesional regions.

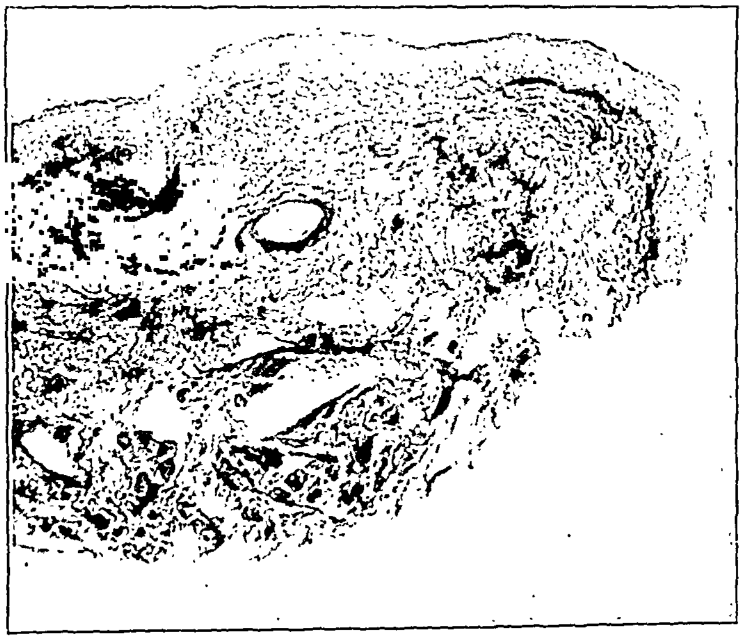

Fig. 5.—Section from Case 2, stained with Weigert's solution, showing deficient amount of elastic tissue. (Spencer Obj.: 1/4 ; no ocular.)

The findings in this case are of very great interest as pointing to a probable explanation of the cause of angiokeratoma. While it is the consensus of opinion among those who have carefully studied the disease that the lesions are the result of capillary dilatation, followed by thickening and other hypertrophic changes in the epidermis, the fact that there must be present some antecedent pathologic condition in either the vessel wall or in the structures surrounding it has never been emphasized, although it was suggested by Fordyce[7] as early as 1896.

The majority of cases of angiokeratoma of the extremities have been seen in young persons, and practically all of the patients were subject to chilblains.

While some of the contributory factors to chilblain are well known, a careful and exhaustive histopathologic study of the affected tissue has never, so far as I can find, been made. We see very few instances of the disorder in the middle west, and I have not yet had an opportunity to secure material from a case. It is probable that alterations are to be found in the elastic elements in this disease also, but whether the changes precede, and, to some extent, superinduce, the localized congestion, or whether they develop as sequelæ, following repeated attacks of the malady, remains to be demonstrated. The matter is certainly worthy of thorough investigation. In those examples of angiokeratoma in which regions other than the extremities are involved, the case records enable us to wholly dismiss chilblain circulation as a possible contributory factor in the etiology. In the majority of cases, however, there is a history of venous obstruction, in the form of a varicocele, tumor of the epididymis, or postoperative venous occlusion, preceding the development of the angiokeratoma, and the evidence is almost conclusive that these little vascular tumors are simply the result of increased blood-pressure in superficial venous capillaries, the walls of which are insufficiently supported. The accompanying changes in the epidermis may be interpreted as Nature's attempt to prevent further dilatation, and possible rupture, of the involved vessels. Inasmuch as there is a fairly uniform insufficiency of elastic fibers throughout the integument of the scrotum, it is probable that the deficiency is congenital in origin.

The result of a careful consideration of the clinical histories of those cases of the disease in which the eruption was more generalized is also very suggestive of the possibility of a similar lack of elastic tissue in the affected areas.

610 Commerce Building.

INTRA-OCULAR NEOPLASMS

WITH A REPORT OF FIVE CASES OF NEOPLASM AND ONE OF SIMULATED NEOPLASM

F. PARK LEWIS, M.D.
BUFFALO, N. Y.

Malignant intra-ocular growths in children are rare, but in the eye-ball as in almost no other part of the body they are encapsulated. If they are discovered early enough, therefore, and enucleation is at once performed, life may thereby be saved. If, on the other hand, their presence is not recognized until the integrity of sclera or cornea has been destroyed and the orbital or extra-orbital tissues has become involved, the invasion of the brain and face with the separation of the cranial bones results in such a horrible method of death that even if the number of cases of retinal glioma is not great, it is worth while to emphasize the characteristic diagnostic features in order that no child may be denied the right of help—while help is yet possible.

The possibilities are that if all cases were reported, their aggregate number might not be so small. Wintersteiner considers that they constitute 0.04 per cent. of all eye diseases. Of 204,612 cases presenting at the New York Eye and Ear Infirmary in ten years, 0.017 were glioma retinæ. It is not at all unlikely that in the country districts or in the small towns remote from large eye clinics, cases which are never reported occur and many more children die than the records would lead one to suppose. The etiology is still uncertain. A number of instances are reported of several cases occurring in a single family, and the assumption has been drawn there-

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

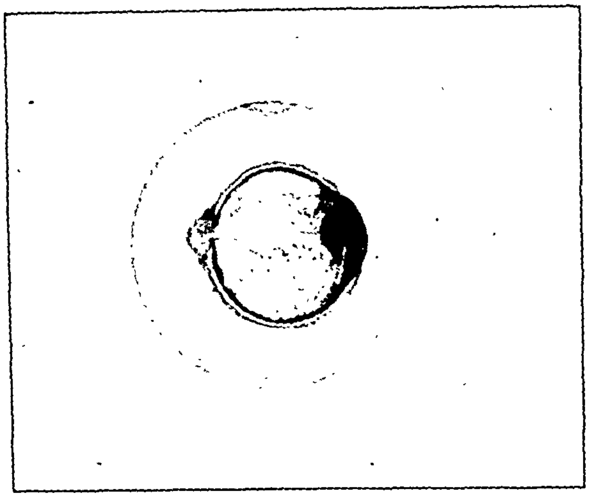

Fig. 1.—Case 1; long band of gliomatous tissue extends from optic nerve through the vitreous to the lens. May not a vestigial hyaloid artery have been the channel of development? No recurrence after nine years.

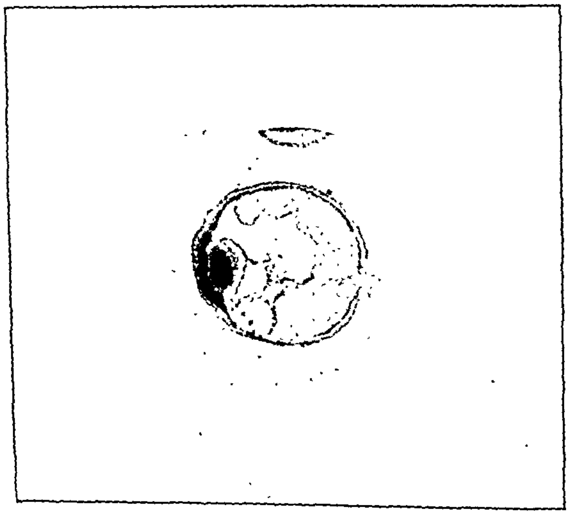

Fig. 2.—Case 2; glioma retinæ; neoplasm absolutely fills posterior chamber of eye. Partial ectasia of sclera with involvement of the optic nerve; enucleation; no recurrence after three years.

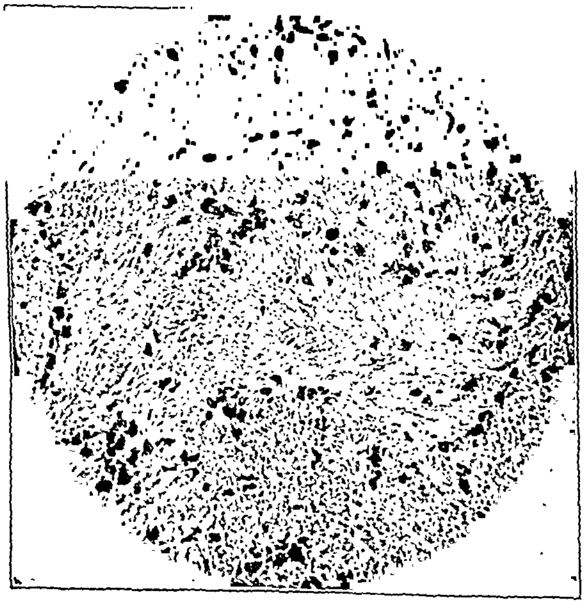

Fig. 3.—Case 2; glioma retinæ. Closely massed round cells, large nuclei; no rosettes found.

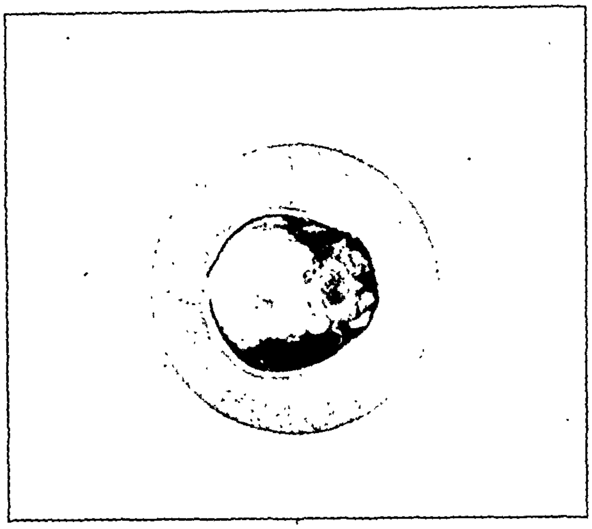

Fig. 4.—Case 3; glioma originating at margin of the optic disk. Beginning staphyloma. Enucleation. No recurrence after eleven years.

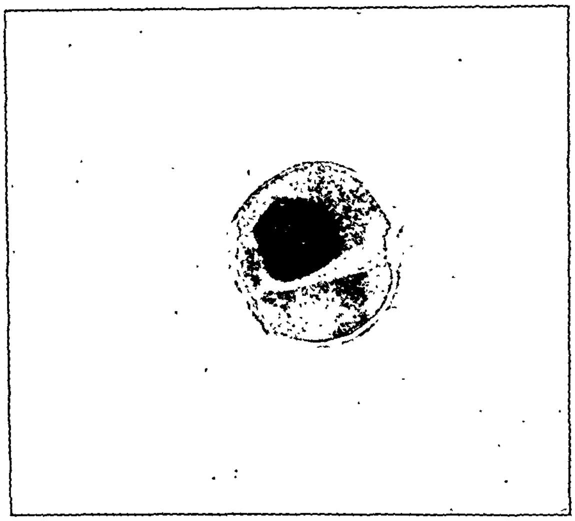

Fig. 5.—Case 4; melanosarcoma; enucleation; no recurrence after a year.

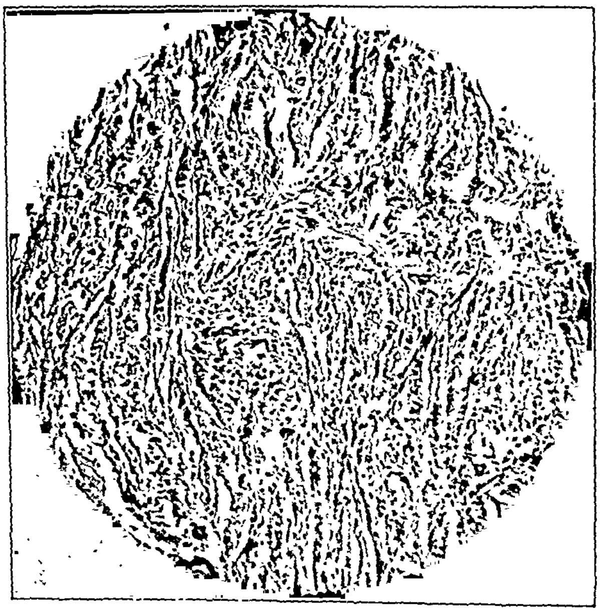

Fig. 6.—Case 4; melanosarcoma. Coarse masses of pigment interspersed with spindle-shaped cells, originating in the choroid.

fore that heredity exercises a controlling influence. Van Hoffman, Jr.,[1] at the last session of the Heidelberg Ophthalmological Society, described a double case of glioma in a mother and her infant child. The mother had been operated on about twenty-eight years before. In the Royal London Eye Hospital reports for 1905, Owen related a similar case. A woman operated on in 1859 later bore a child which also had a glioma, likewise removed. A full sister of the second woman bore two children who had glioma. One was cured by operation, the other died of the disease. The author reports a third family case. He operated on a boy 2 years old in 1872. This boy married at 21 and his wife bore seven children. The second and third both had gliomata at the ages of two years and five months respectively. The first was operated on but suffered recurrence in orbit and both eyes. An operation was refused in the second case and both children died.

Many cases are reported of several children in one family having this disease, but in all of these as in the classical one described in the *Australian Medical Gazette*, in which, out of a family of sixteen children, ten had glioma, it seems far more likely that some congenital fetal defect was present in each of them which made the development of the disease possible.

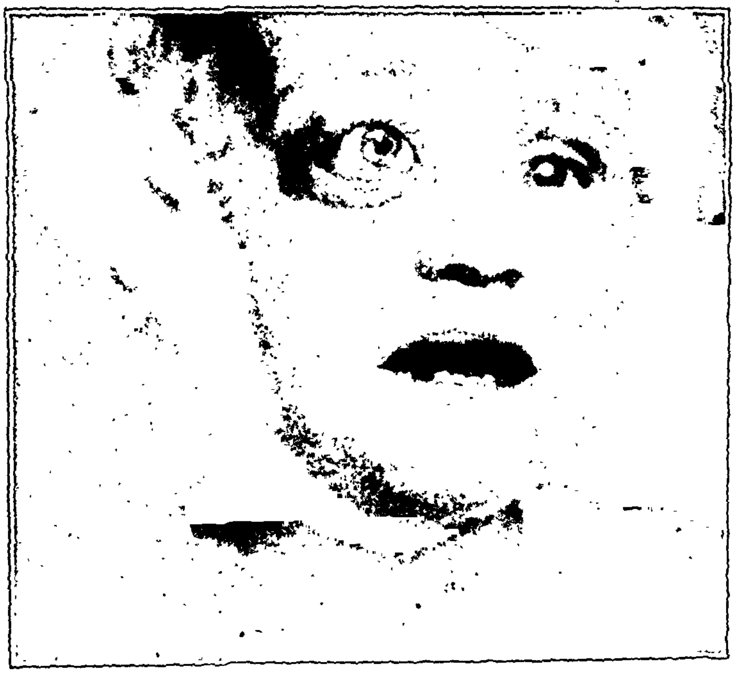

Fig. 7.—Case 5; extradural glioma of optic nerve; enucleation of orbit. No recurrence afterward, although probable later.

This is borne out by Fuchs' observations. A mother brought her 4-year-old child to his clinic with an advanced glioma of the right eye. The ball was much enlarged and the neoplasm was growing into the orbit. The entire orbital contents were removed, but the growth recurred and within a year the child died. Some months after the mother brought the second child, who likewise had a glioma which was removed, but which also returned, resulting in the death of the child. Soon afterward she brought her baby, then only a few months old, with a defect of its left eye. In this case it was not a glioma, but a congenital coloboma of the iris and chorioid from which Fuchs concluded that a congenital morbid disposition must have been present which was the basic cause of the glioma in each of the cases.

Recent pathologic studies have added little of value to our knowledge of the intrinsic nature of these tumors. The consensus of opinion seems to be in accord with Cohnheim's theory that an adventitious fetal development of the nerve fiber and ganglion cells results in the establishment of "rests." From these the glioma takes its origin. As Treacher Collins has shown, the glioma cells and those of the undifferentiated cells of the three-months fetus bear a close resemblance to each other, and it is more than possible that the developed tumor bears a direct relation to the halted development of the fetal retina, and the glia and ganglion cells may be in Axenfeld's opinion the outgrowth of the undifferentiated cells of the tumor.

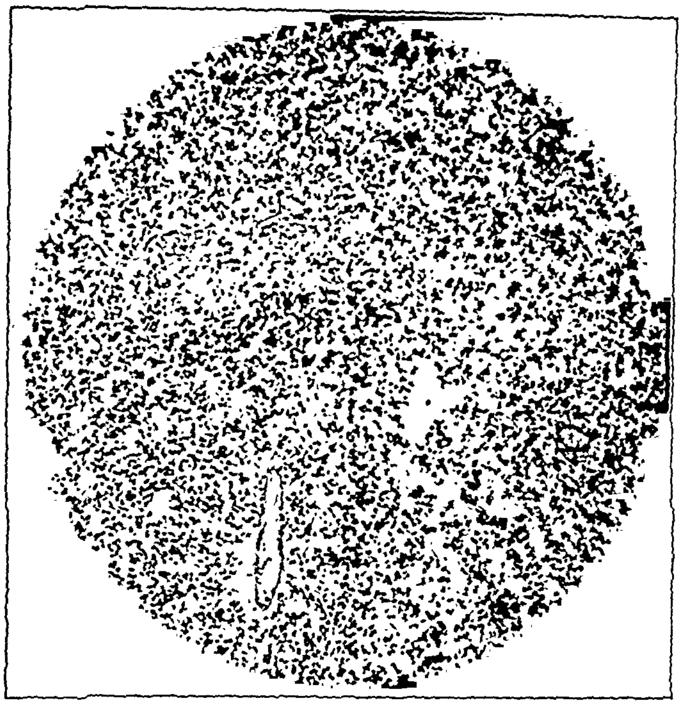

Fig. 8.—Case 5; extradural glioma of optic nerve; spider cells from glia.

While much has been written concerning retinal glioma, no new facts have been deduced from our recent studies which to any degree change existing views as to the nature of these malignant tumors. The purpose, then, of this report is not to add to our pathologic knowledge of these rare growths, although the four described are of sufficient interest to merit special reference; but it is to urge that these rare conditions be brought more frequently before the notice of the general profession, because they occur so infrequently that a physician in general practice may allow the possibility of such a growth to pass wholly out of his mind, and because without distinctive ophthalmologic appliances, the recognition is so easy on the part of any intelligent observer, and because by its early recognition life may be saved in a large proportion of cases.

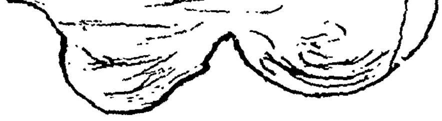

Fig. 9.—Case 5; extradural glioma of optic nerve.

Every case should, therefore, be reported and if possible a section of the tumor made and the character of the neoplasm determined. We shall in this way not only get fuller statistical records as to the actual number of cases which occur, but we may, by calling attention to its manifest characteristics, render it possible to make a diagnosis before the growth has passed outside of the eye-ball and while enucleation may yet save the life of the child.

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[1] Van Hoffman: Ann. d'ocul., 1910, cxliii, 32.

The yellowish reflex coming from the depths of the vitreous lead to the common name given to it by the earlier writers of "amaurotic cat's eye"; and if a light is allowed to shine obliquely into the large pupil, the whitish reflex coming from behind the lens together with the age of the patient is almost absolutely characteristic. When such cases present themselves, skilled advice, if obtainable, should be immediately sought. It is quite different in appearance from the whitish color of a cataract or the surface opacity of a leukoma. It may, indeed, be confounded with plastic deposits in the vitreous from the uveal tract, but these are rare in young children; and when they occur, the usefulness of the eye has probably already been lost.

The first three cases reported below are interesting as being typical of this form of neoplasm. The fourth, that having its origin in the optic nerve, is exceedingly rare. All of these cases occurred, as glioma almost invariably does, in children under 4 years of age. The fifth, that of melanosarcoma, was found in a boy of 13. At present there is no evidence of a recurrence. The sixth is of interest as being the result of an uveitis, possibly prenatal, developing a glaucomatous condition of the eye and simulating in appearance an intra-ocular tumor. An exact diagnosis was impossible until the eye had been removed and sectioned. The illustrations give more clearly than any verbal description the exact conditions which were found in the first five cases.

REPORTS OF CASES

Case 1.—Glioma retinæ; enucleation; no recurrence after nine years.

Patient.—A. F., of Pembrook, Genesee County, N. Y., the daughter of simple, honest, hard-working parents, was brought to my clinic on Nov. 26, 1910. She had nearly reached four years, and although there had been some pecularity noticed in the right eye since she was 1½ years old, it was only during the past four weeks that a marked difference was observed by the parents.

Examination.—The child manifested considerable uneasiness, pulling her hair on that side and occasionally manifesting evidences of discomfort in the eye. The pupil was dilated and maximum and immovable. The cornea and lens were perfectly clear, while a lobulated whitish yellow mass could be seen apparently filling the posterior chamber. It was traversed by fine vessels, giving in places a light reddish reflection. Tension was apparently slightly increased. There was no response to light, and the eye was evidently perfectly blind. The child was apparently in robust health and seemed to be unusually well developed.

Course of Disease and Operation.—The diagnosis of glioma was made and an enucleation advised. This was refused for the time, however, by the parents, and the child did not appear at the clinic until April 3, 1902. The tumor had then markedly increased, the eye-ball was flushed, injected and painful, tension plus 2, the lens pressed forward toward the cornea but still clear and in the upper portion of the mass, which was discernible when seen by reflected light, evidence of hemorrhage which had partially absorbed. It was no longer safe to postpone operative measures, so the child was taken into the hospital and an enucleation immediately performed. The eye was hardened and on section of it the diagnosis of glioma was confirmed. Figure 1 shows the extent to which the growth had filled the eye-ball. On April 15, 1911, the child was again brought to my clinic, when the orbit was found to be in perfectly normal condition and there was no evidence of any return of the growth, so that it may be considered to have been permanently cured by the excision.

Case 2.—Glioma retinæ; enucleation; no recurrence.

Patient.—C. S., the little daughter of well-to-do parents from another town in Genesee County, was brought to my office by her grandfather, a well-known physician of that place, on Feb. 15, 1908. The little girl was 3 years old. The previous summer she had fallen and struck her nose and from that time a glassy look appeared in the left eye, which seemed to diverge slightly. The day before bringing the child to me, the parents had covered the right eye and had discovered to their alarm that the child was unable to see from the left eye. The little girl had gray eyes, both pupils being normal and both reacting to light readily. There was no history of cancer and the family are quite sure that the child had been able to see out of the left eye for some time after she was born. Lately she had been running against objects and seemed unable to guide herself. For the past week she had been unusually irritable.

Examination.—The eye-ball showed no apparent redness externally; the cornea and lens were both clear, but in the vitreous, flocculent masses that seemed of a creamy whiteness could easily be seen by oblique light without the aid of the ophthalmoscope.

Course of Disease and Operation.—The diagnosis of glioma was made and assurance given that within a short time the eye must be removed. It was, however, two months before final permission was obtained. Then tension had rapidly become increased, the eye being injected. The child was immediately taken to the hospital and the eye-ball removed, the optic nerve being divided as far back as possible. A section of the eye was made after it was suitably hardened, and Figure 2 shows that the vitreous had become completely invaded by the gliomatous mass. Had enucleation been much longer delayed, the growth would have passed through the ocular structures, involving the orbit, when an exenteration of the orbit would have been required, and even that might not have saved the child's life.

Case 3.—Glioma retinæ; enucleation of eye-ball; no recurrence after eleven years.

Patient.—F. S., of Buffalo, was brought to my clinic at the Charity Eye and Ear Hospital on Oct. 16, 1900, aged 2½, one of eight children. The family was wretchedly poor, often lacking the necessities of life. The youngest of the family, a baby of 6 months, had had spasms from birth. F. had twice had measles; the left eye during the first attack had become swollen with much mucopurulent secretion. He had had a second attack last winter, at which time the eye had become inflamed but apparently had recovered again. The eye began to have a "hollow look," as described by the mother. Three weeks before I saw him, the child had fallen down-stairs, after which the eye-ball began to swell; and during the last three weeks, much of the time the child had held his hand to his head and given evidence of suffering.

Examination.—The cornea and lens were still clear, but a yellowish mass tinged with pink filled the vitreous. The red fundus reflex could still be seen around the margin of the enlarged pupil. The pupil did not react to light and tension was increased.

Operation.—An immediate enucleation was advised and made. The diagnosis of glioma on section was confirmed and the mass was found already occupying the vitreous space.

Case 4.—Melanosarcoma in boy of 13 years; enucleation; no recurrence. As differentiated from these cases, all of which seem to have originated in the optic nerve, and in none of which was the patient older than 4 years, this case is of interest and value.

Patient.—C. B., of Falconer, Chautauqua County, New York, a schoolboy of 13 years, was brought to my office by his parents, who gave a record of good heredity. The patient had, however, not been seeing from the right eye for some time.

Examination.—In this eye (the right) he was found to have light perception, recognizing only moving shadows, with entire loss of the temporal field, while the light could be perceived on the nasal side. In the left eye, with a plus .50 D. Sph. plus .50 D. Cyl. axis 180, vision equaled 20/20; external chorioidal degeneration with scattered pigment masses was found to be present. A grayish elevated mass was discovered on examination with the ophthalmoscope, occupying nearly a third of the nasal side and leaving a wide margin which was undisturbed between the growth and the optic disk.

The diagnosis of malignant neoplasm was made and the parents assured that enucleation must necessarily be made. The eye, however, was kept under observation for nearly a year before it was removed, when the growth which is shown in Figures 5 and 6 was shown to be a melanosarcoma.

Case 5.—Intradural glioma of the optic nerve; exenteration of the orbit. Glioma of the optic nerve is exceedingly rare. The report of the following case will be of value.

Patient.—Baby S. was brought to my office by Dr. William M. Mehl, of Buffalo, for consultation because of a marked exophthalmos. She is the little daughter of parents in moderate circumstances living in Allegheny County. One year previously, the mother noticed that the child frequently rubbed the right eye and shortly afterward it was seen to protrude. This protrusion had continued, slowly increasing to the time of examination.

Examination.—There was no evidence of pain and the child was well nourished. All the movements of the eye were still retained and notwithstanding the excessive proptosis, the child was still able to close the lids completely over the ball. It would seem that the lids had grown with the ball so as to accommodate themselves to the excessive protrusion. The eye could not be returned to the orbit with pressure, thereby excluding the possibility of an orbital vascular growth as the cause of the protrusion. There was no pulsation of the eye, nor was it apparently irritable or reddened. The pupil responded to light slightly. The vessels in the fundus were dark and tortuous, and a view of the disk, as far as it could be obtained in a nervous, unsteady child, showed a woolly and uncertain outline. The possibility of a gliomatous involvement was not considered because of the great rarity of tumors of this kind and it was thought that possibly a postauricular abscess or cyst might be causing the protrusion. The child, therefore, was placed under chloroform and an opening was made by the side of the eye-ball and the finger inserted, when it was found that a large roundish growth, apparently coming from the optic nerve, occupied the larger portion of the orbit. Incision was made into this growth, when it was found filled with a translucent honey-like yellowish mass, the tumor being separated by membranous septa. It was evident, therefore, that the growth was gliomatous.

Operation and Course of Disease.—The entire mass was removed on Aug. 13, 1910, by Dr. Mehl in my presence. Figure 8 indicates the character of the substance which was found to constitute the tumor. So extensive was the involvement of the optic nerve that the entire exenteration of all of the tissue in the orbit was made. It seemed inevitable that the growth must recur and an unfavorable prognosis was made. In March, 1911, however, the child was again seen and the tissues of the orbit had filled in apparently normally. The lid was not greatly sunken, and there was no evidence whatever of malignancy in the new tissue. It is quite possible, however, that ultimately the growth may recur.

Case 6.—Iridochorioiditis with occlusion of the pupil simulating an intra-ocular neoplasm.

Patient.—E. H., of Fillmore, New York, was referred for consultation by Dr. S. Mitchell of Hornell, in January, 1910. From the October previous the child had been suffering with the right eye. One night a sharp pain developed in the eye and the next morning the eye-ball was very red and swollen. The patient was not seen by Dr. Mitchell for some months; then the eye was found deeply injected, the pupil contracted and filled with a plastic gray mass, and lens and iris pushed forward until it was in contact with the cornea. The eye-ball was intensely hard and evidently exceedingly painful. Dr. Mitchell had advised enucleation. The eye was evidently entirely blind.

Examination.—The conditions present when the boy was brought to my office were quite the same as those which Dr. Mitchell had found with the exception that they were intensified. The grayish mass in the pupil had recently become more marked. Glaucoma following a general uveitis occurring in a child three years old and involving only one eye, all led to the suspicion that a glioma was present and was rapidly developing.

Operation.—The eye-ball was removed by Dr. Mitchell and a section made, when it was found that there was no tumor in the eye whatever. The glaucoma was the result of the obstruction of the filtration angle and of the intense iridocyclitis, which in all probability had existed for a long time before Dr. Mitchell was consulted.

The case is important as one simulating an intra-ocular tumor and showing the great difficulty in diagnosis prior to enucleation. Happily in either instance, the eye had to be removed and diagnosis was one of secondary, although scientific, interest.

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[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

THE IMMEDIATE REMOVAL OF TRAUMATIC CATARACT *

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A paper relating to the treatment of eye injuries, to be properly understood, should be confined to specific cases.

The impossibility of the universal application of any single line of treatment is well known to all surgeons, but especially so to those most frequently called on to treat eye injuries. In these cases it is often the most experienced who find it hardest to decide on the line of treatment.

Sweet, in his report[1] of 702 cases, says: "Unlike other operative procedures on eyes in which there is uniformity of technic, each foreign body injury must be studied as a separate and distinct condition."

Bowman[2] is quoted as saying: "I have never laid down a method of extraction of cataract universally applicable I always operated as seemed best at the time for the individual treated."

Another difficulty in obtaining uniform results is the difference not only in classes of people, but classes o injuries. Sweet's report, which probably fairly represents the proportion of cases in the large cities, gives 81 per cent. magnet cases, while my cases are in almost inverse proportion. He gives 5 per cent. lens injuries Here, among the penetrating wound cases the proportion of lens injuries is several times this percentage.

When the patient is seen immediately or soon after *the injury, after he has recovered from the shock* and before the local reaction has made careful work almost impossible, the lens should be extracted. This may be done under a local anesthetic, though a general anesthetic is preferable in many cases. If local reaction is already marked, the ophthalmologist should wait about four to six days when it subsides, then remove the lens before the secondary inflammatory symptoms have become severe.

A general anesthetic is necessary at this time. Though the breaking up of the lens and washing it out has been a recognized procedure for some time, a regular cataract extraction, combined or simple, has in many cases been more successful. If there is a large central corneal wound or if the lens is already badly mutilated, cutting it up with a cystotome and washing it out is the operation of choice. Unusual care must be exercised in doing this, as the zonula, if not already ruptured, may very easily become so in these cases, or if the wound extends into the vitreous there is likely to be some mixture of lens and vitreous. To wash this lens matter out, especially when there are fine particles of rock in the anterior chamber, often requires considerable force. Several times I have found it difficult to be certain just what the escaping fluid consisted of.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Sweet: Third Series of Cases of Injuries from Foreign *Bodies*, Tr. Am. Ophth. Soc., 1909.

[2] Wood's Ophthalmic Operations, p. 1155.

In children and young people, if there are no positive indications of a foreign body in the lens, a safer and more simple procedure is to extract by suction with a needle.

An ordinary hypodermic needle will answer in children. It is introduced well into the lens, care being taken not to pass into the vitreous. If the needle is turned so its opening can be watched during the suction it is under better control.

In older patients or when particles are in the lens, the regular combined or simple extraction is preferable. Though some may, and with apparently good reason, urge against an iridectomy at this time, as a rule I prefer it, especially in severe lacerated cases. As yet I have seen no bad results that could be attributed to this, while several simple extractions would have done better had iridectomy been performed. If there is a foreign body imbedded in the iris, iridectomy becomes necessary. The incision in the cornea should be made as near as possible to the imbedded body in the iris. After extraction I fill in between the lids with germicidal ointment (1-5,000 mercuric iodid) using the standard strength if the eye is perfectly clean, or the strong (double this strength), when infection is probable. The formula of this ointment is:

℞	Gm. or c.c.			
Hydrarg. iod. rub......		06		gr.i
Pot. iod.		3		gr.v
Aquae q. s....................			or	
Adipis lanæ	30			℥i
Petrolati albi......... ..q.s. ad.	300			℥x

It has the advantage of being non-irritating at this time, a powerful germicide not precipitated by alkalies or albumins, thus of decided advantage over corrosive sublimate. Though in a normal eye this ointment may be irritating, in an injured eye, especially during the acute stage it acts otherwise. Besides being a germicide, it prevents adhesions of the lids and dressings and is easily applied. It also prevents that dry sticky sensation.

If this does not control infection, 25 per cent. argyrol in many cases does. Of course, one must not rely too much or too long on any particular remedy. The pupil must be kept dilated, the ointment used once, twice or oftener each day and any other treatment as indicated. Salicylates the first three or four days I believe to be of much value.

CASE 1.—Man aged 50, blasted December, 1908; each eye contained several pieces of rock in anterior chamber and lens, besides innumerable specks in the cornea. On the fifth day general anesthetic given; the left anterior chamber irrigated to remove loose specks, and then lens cut up with cystotome and irrigated. When about three-quarters washed out, vitreous appeared and operation was stopped. In right eye, all loose foreign bodies were washed out, then iridectomy done and lens extracted by regular combined method. Very little vitreous was lost. Patient left hospital eleven days after operation; was able to distinguish objects in sixteen days. The eye from which lens was fully removed made much more rapid progress and required much less attention. Man is now wearing + 10.00 D. S. lenses and able to make his living working around the mine.

CASE 2.—Man aged 25; back fire from rifle caused corneal wound and opaque lens. Patient was seen on fifth day; tension high, pain severe, lens much swollen. Twenty-four hours' treatment failed to relieve. Cornea was incised with knife; needle introduced into lens and most of it extracted. Uninterrupted improvement followed. Vision 20/20 with his glasses.

CASE 3.—Man aged 25; steel penetrated lens, entering vitreous; large central ragged corneal wound. The other eye had been enucleated some years before from a similar accident, so it was decided best to take what was supposed no extra risks; magnet extraction, wound cleaned and touched with electrocautery. The swelling of lens with its slow exudation prevented permanent closure of corneal wound for some weeks. There probably was some vitreous exudation as well. It is now two years since injury; eye is shrunken to about nine-tenths normal size; pupil occluded; has light projection. Though an irito-ectomy may restore some vision, this case should be carefully compared with the following one, all conditions being very similar.

CASE 4.—Man aged 24, injured same week as above patient, ragged wound entirely across center of cornea. Piece of steel was extracted with magnet from posterior of lens. General anesthetic was given and lens removed by combined extraction operation. Recovery was uninterrupted; patient working in three weeks. Vision after three months with a + 9.00 + 3.00 was 20/30.

CASE 5.—Man aged 32; iron in eye-ball, its presence not suspected for eighteen days. Local anesthetic was given, magnet extraction done, and lens cut up and washed out through the same wound in lower part of cornea. In three weeks patient returned home, with eye in nice condition but only light perception and projection as yet. Secondary cataract will be operated on later. As infection was already markedly advanced in this eye, the result was unusually good.

CASE 6.—Man aged 53 blasted, seen by me on the fifth day; both eyes full of fine rock. Right eye had rock in lens and cornea. Left eye was still very much swollen, so a thorough examination was impossible. General anesthetic was given and at least five pieces of rock removed from anterior chamber and lens of right eye; lens removed by simple extraction. Patient was taken care of by his physicians, Drs. Brook and Lanstrum in Helena, until able to be moved here three weeks later, when right eye was found in good condition but for secondary cataract and the foreign bodies around the eye-lids. Foreign bodies being now visible in left lens, it was removed by simple extraction under general anesthetic. Recovery slow but satisfactory.

CASE 7.—Man, aged 33, came in office while this paper was being completed, injured two hours. Iron 3 by 9 mm. imbedded in posterior of eye-ball was extracted by magnet through lens and original corneal wound. Anterior chamber immediately filled with blood so no attempt was made to remove lens.

The above cases have been selected to illustrate better than can be described the salient points. As a general rule, notwithstanding the extra traumatism, the seemingly increased risk of infection, the removal of an injured lens immediately or a few days after its occurrence is followed by less reaction, less pain, less difficulty in maintaining dilatation of pupil and a very much more rapid recovery than if the case is left to Nature or future operation. In all properly selected cases and especially among the working classes or those unable to lose much time, the immediate removal of the injured lens as above suggested will give the best results.

Those of limited experience in this field, when not certain they are giving their patients the best possible treatment by immediate operation, by all means should not proceed, but treat carefully, study and watch developments as long as they continue favorable.

[THE DISCUSSION ON THIS PAPER WILL BE FOUND ON A LATER PAGE OF THIS ISSUE UNDER THE HEADING OF "SECTION DISCUSSIONS."]

THE PRODUCTION AND CONCENTRATION OF A SERUM FOR ROCKY MOUNTAIN SPOTTED FEVER

PRELIMINARY NOTE *

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Ricketts and Gomez[1] have demonstrated that the horse is susceptible to inoculation with spotted fever virus, and that after recovery the serum has protective properties similar to the blood of guinea-pigs which have recovered from the disease. Two years ago one of us, associated with Ricketts, succeeded in obtaining from a horse a large amount of serum, which was used to a limited extent in the Bitterroot Valley. Owing to the small number of cases on which it was used, the results have so far thrown no light on its efficacy.

At the request of the counties of Ravalli and Missoula in western Montana, the necessary funds having been furnished by these counties, we proceeded to inoculate two horses with 200 c.c. of spotted fever virus each. The virus was divided into two parts in each case, one part being inoculated into the jugular vein, the other part subcutaneously back of the shoulder. This proceeding was adopted, because it is still undetermined which method is the more effective one. Three weeks after the first inoculation, Horse 1 was given another inoculation of 460 c.c. virus, the method of injection being both intravenous and subcutaneous as before.

The first injections produced a fever in both horses. Horse 1 had a temperature of 103.5 F. on the fourth day after inoculation. Blood was taken on each of five days, while the temperature was above normal, and each lot inoculated into two guinea-pigs. The blood taken on the fourth day, when the temperature had reached the maximum, was infective for guinea-pigs, and was transferred several times from the first guinea-pig, to prove that the infection really was spotted fever. The blood taken on the other four days proved non-infectious. This fact possibly bears out the statement of Ricketts that the concentration of the virus varies greatly in different susceptible animals. We interpret the results as indicating that the concentration of the virus in the horse is very low, and a sufficient amount of infectious material was contained in the blood of the horse only on the day of the highest fever.

Horse 2 showed a temperature curve similar to that of Horse 1. The maximum was reached on the fifth day (103.4 F.). We drew blood from this horse on four days of the fever, but missed drawing blood on the day of the highest temperature. The guinea-pig inoculations from the blood proved negative.

The protective value of the serums from both horses was tested by injecting guinea-pigs of an approximate weight of 250 gm. with 1 c.c. of virus and varying amounts of the serum, diluted with sufficient physiologic salt solution to make the volume of the serum injected uniformly 3 c.c., excepting when 5 c.c. of serum were given. The virus and the serum were injected separately into the peritoneal cavity, and not mixed before injection. We believe that this makes a more rigid test than if the serum and virus were mixed before injection, eliminating a possible restraining effect of the serum on the live virus. No preservative was added to the serums in these experiments.

Without giving the results in detail, we found that the serum had no protective value, even in as large a dose as 5 c.c. of undiluted serum, if the serum was drawn earlier than seven to eight days after the temperature of the horse was normal. Tests with a serum drawn from Horse 1 eight days after the temperature had become normal, protected guinea-pigs only if 5 c.c. of serum were injected with 1 c.c. of virus. Serum from Horse 2, drawn ten days after normal temperature had become constant, protected guinea-pigs, if 1 c.c. was given.

After Horse 1 had received the second injection of virus, there was no temperature reaction, excepting that within two hours after the injection, there was a temporary rise of two degrees, accompanied by profuse perspiration, possibly due to shock or an anaphylactic reaction. The potency of the serum drawn twelve days after inoculation had increased, so that 0.5 c.c. of serum gave complete protection against 1 c.c. of virus. Partial protection was evident in doses as small as 0.125 c.c., the fever appearing on the ninth, tenth or eleventh day.

Successful attempts have been made in concentrating the serum of Horse 1 after the second injection, and of Horse 2 after the first injection. The method of concentration is similar to the one in general use in the concentration of diphtheria antitoxin. The greater part of the antibodies is evidently connected with the pseudoglobulin fraction, as in diphtheria antitoxin. The concentrated serums protected in the following amounts:

Serum 1 B. .01 c.c. protected against 1 c.c. virus
Serum 2. .05 c.c. protected against 1 c.c. virus

Preliminary experiments on the value of immune horse-serum as a curative agent are encouraging and will be continued in the near future.

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* From the Serum Division of the Memorial Institute for Infectious Diseases, Chicago.

[1] Ricketts and Gomez: Jour. Infect. Dis., 1908, v, 221.

THE PROPHYLAXIS AND TREATMENT OF SUMMER DIARRHEA

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There is hardly any subject in pediatrics about which more has been written than the one which I am to treat in this paper. This disease, or group of diseases, has suddenly come to be considered of national importance, to be compared in its ravages only with tuberculosis, and worthy of the full attention of national boards of health and of economists. It is, therefore, very clear that, in the short space of this paper, there can be no thought of covering the treatment of a disease of this magnitude, and that I must confine myself rather to a broad consideration of the principles involved. It would also seem that at the present time the subject is in such a chaotic state—for we can find authority for almost every conceivable method of feeding—that it would be untimely and to little purpose to go beyond the consideration of general principles into the realm of detail.

In the prophylactic treatment of summer diarrhea the greatest stress has been laid on the importance of nursing, and rightly so, as the statistics of all lands are in accord that, however we may explain the fact, the nursing baby is best safeguarded against gastro-intestinal disturbances. This, then, is the corner-stone of prophylaxis. For the infant depending on cow's milk for nourishment, however, and thereby gravely exposed to danger, we have concentrated our efforts in making a safe food available. This work includes the inspection of farms, of the milk in transit and in the stores, in requirements as to pasteurization or sterilization, in advice as to the preparation of the food, of the care of the milk in the home, of the bottles, and all other appurtenances which come into contact with the milk in its preparation for the baby. As all know, the propaganda to instill this teaching into the minds of the public has been taken up by municipalities, and by medical and philanthropic organizations throughout the United States. There is an implied if not an actual inference, that if all babies which are not breast-fed can be provided with pure and properly prepared milk, the greatest problem of infant mortality will have been solved, in that summer diarrhea will fade into tranquil obscurity. Now, although this pure milk "campaign" is praiseworthy, and we should strive to provide clean and suitably prepared milk for the infants, is it probable that if we succeed in these efforts, we shall escape the annual visitation of diarrheal troubles, and are we wise in concentrating our attention so exclusively in this direction? It is a long and a thankless task to enter into the discussion of the causes of summer diarrhea, and yet, if we would consider the prophylactic treatment of this disease, we must consider, if but briefly, its etiology. The difficulty in unraveling the causative factors and of comparing statistics compiled from various quarters is enhanced, as the case may be, by the inequality (1) in the number of infants artificially fed, (2) in the intelligence of the mothers, (3) in the purity of the milk, (4) in the variation of the food constituents, (5) in the variation of the social and housing status of the family, (6) in the difference in the temperature and humidity in the localities in which the results were obtained. Without going far afield in this subject, it may, to my mind, be safely stated that there are many considerations which must lead us to conclude that the summer heat in itself is a most important etiologic factor. The conception of heat and variations in temperature as a cause of summer diarrhea in infants was first suggested in this country by Rush in 1789, and has quite recently been brought forth again. The high mortality among infants in our cities, for instance in New York, where the milk-supply is exceptionally good, as compared with the mortality in other large cities, for example London or Berlin, where the supply is certainly not superior but the summer far cooler, is an argument in favor of this proposition. Another argument is the parallelism that has been brought out between excessively hot days and excessive infant mortality, a point well illustrated by Willim's chart for Breslau and Finkelstein's chart for Berlin. A further point to be considered in this relation is the fact known to us all, that, other factors being equal, a cool summer means a low infant mortality and a very hot summer a high mortality. I do not wish, however, to enter into a full discussion of this question, but rather to draw attention to the fact that it is an element to be reckoned with both in etiology and in prophylaxis. There are, therefore, three main phases to be considered in the prevention of this disease: the first—first by right of importance—namely, breast-feeding, it is not necessary for me to dwell on, nor on the second, that of pure and properly prepared milk, except to mention that I believe too little attention is being paid to the care of milk in the home of the baby. The third factor, that of combating the high temperature of summer, has not received sufficient emphasis to allow us to pass it by with mere mention. We should insist that in hot weather infants should wear light clothing and very little of it (the woolen abdominal band is not necessary), that they should be bathed once a day and sponged many times a day and that they should be given cool water frequently. It would be well if we could illustrate this teaching in the dispensary by giving each infant a bath, and by keeping the waiting-room cool, where the mothers are compelled to wait holding the infants in their arms. This cooling of the room for a couple of hours can be accomplished, I think, without great expense, by passing a current of air from an electric fan over a block of ice. The day nurseries should likewise be artificially cooled. Furthermore, opportunities should be provided for the tenement-house baby to escape from the enervating atmosphere of the room or street, and for this purpose large airy buildings, such as schools, armories, and churches, could well be utilized as recreation centers. We shall be forced to realize more and more that the question of infant mortality, including that of summer diarrhea, is no longer a purely medical problem, but, like tuberculosis, is sociologic, and must be combated by improving the social status of the masses.

When we turn from the prophylactic treatment to the treatment of the disease itself, we find but little unanimity of opinion. It is, however, generally realized that the attacks which apparently come on so suddenly in the warm weather are generally preceded by mild attacks of indigestion or dyspepsia in the months preceding. A baby who has been the subject of a mild derangement should be fed with care throughout the summer months. But here we meet a stumbling-block, for what is meant by careful feeding? I have but to mention that the proteids, the fats, the sugars, and the salts have each in turn been accused of being the disturbing element. An infant so predisposed should sedulously be guarded against overfeeding, and in my experience a high percentage of fat or of sugar is most to be feared. There is, at present, a wholesome fear of feeding too much fat to babies, so that this can be passed over with mere mention; but for the most part, the amount of sugar given is disregarded. Mothers and physicians alike, in detailing the preparation of the baby's food, do not consider it of sufficient importance even to mention the percentage of sugar that is being added. Nevertheless, most infants react to sugar to a surprisingly exact degree; when little sugar is given the bowels become constipated; by adding sugar, generally from 4 per cent. to 6 per cent., this condition is relieved. If we add still more sugar diarrhea is produced, or even without this addition in some cases. The reaction of the intestine to sugars, to some forms more than to others, is more rapid and constant than in the case of fats. It is generally the infants who have suffered from attacks of dyspepsia due to these factors, who are doomed to an acute relapse in the summer.

As soon as the diarrhea begins, castor oil should be administered and food should be withheld for at least twelve hours. During this period water should be given frequently, by mouth if there is no vomiting, by rectum if vomiting is present. The best treatment for the vomiting is lavage and starvation. If the infant presents symptoms of marked loss of fluid, such as a dry loose skin, parched tongue, depressed fontanel and sunken eyes, salt should be added to the water, so that a hypotonic solution of 0.3 to 0.4 per cent. is given. If we make use of a normal solution edema is apt to ensue. Fever should be controlled by means of occasional baths at 85 F., and frequent packs at this temperature or lower, if necessary. There is no medicine, except perhaps a stimulant in case of collapse or severe prostration, which has any value; bismuth, the astringents, and the opiates are ineffectual.

One of the fundamental principles of the feeding is that it should be begun in very small quantities, a teaspoonful every two or three hours. Another rule is that fats and sugars should be avoided. We must not forget, however, that the various food constituents differ in their action according to their correlation. For example, sugars when given with dextrin or starches lose their laxative effect. The same is true for both fats and sugars in combination with proteids. It is due to these considerations that we can begin with the feeding of the so-called "casein milk" of Finkelstein, which I saw successfully used last summer in his clinic in cases of summer diarrhea or, as he terms it, "intoxication." This is a food containing a high percentage of proteid, a moderate amount of fat, and but little sugar and salt. If we have not this food at our disposal, skimmed milk may be given in small doses. Whey is very unreliable. It is very often difficult to decide how rapidly the amount of food should be increased, for we certainly cannot judge by the stools or by the temperature curve alone, but must also take into consideration the general condition and appearance of the patient. Frequently, this period of scant feeding is, through excessive caution, prolonged for many weeks, until there is imminent danger of marasmus or atrophy following the acute attack.

In the active treatment, as well as in the prophylactic treatment of this disease, the control of the atmospheric heat is of great importance. The room should be kept as cool and airy as possible. The hospital ward should be cooled by means of ice and electric fans as mentioned before; indeed, it is worth considering whether it is not feasible to provide babies' wards in model hospitals with a cooling apparatus, which seems as indispensable for infants in this climate as the heating apparatus in winter. Office buildings now have cooling facilities; why not babies' wards?

Although older children do not suffer from summer-complaint to the same degree as infants under one year of age, nevertheless they are subject to intestinal disturbances in summer, to enteritis and to dysentery. For such children I have found the following treatment of great value: Following a preliminary dose of castor oil and subsequent starvation, as in the case of infants, we have recourse to a diet rich in proteid matter and poor in the fermentable sugars. In this connection I may add that the diarrheal stools of infants and children in most instances give evidence of fermentation as shown by an acid reaction. This diet is based on Finkelstein's principles, and is being used in his clinic. The child is given cream cheese, cottage cheese or pot-cheese twice a day on well-cooked toast, also well-ground meat once a day with a small amount of soup and vegetable. No milk is given; the only fluids allowed are a little soup and water, with or without the addition of proteid such as white of egg. I have seen children under 2 years of age with dysentery, having mucus and blood in their stools, rapidly get well on this diet. The same is true of older children with mild cases of diarrhea. A great advantage in this treatment is that the child does not lose much strength and weight, and that convalescence is short. Carbohydrate foods, such as cereals, are gradually added to the diet. I may state that cream cheese constitutes an excellent article of diet for children as soon as they are old enough to take any solid food. I can say this unreservedly, as for some months I have been giving it to 150 children in an infant asylum with which I am connected. Furthermore, I have found it an excellent diet for such children [illegible] have an idiosyncrasy for milk.

I realize that a great deal is omitted in this paper, which one might properly expect to have been considered, and that the details of treatment are scanty. It has been necessary for me, however, to confine myself to the general principles involved in the treatment, to outline the basis on which it is grounded, and to leave the details to another time.

154 West Seventy-Second Street.

DISTORTIONS OF THE VISUAL FIELDS IN CASES OF BRAIN TUMOR

(*Second Paper*)

DYSCHROMATOPSIA IN RELATION TO STAGES OF CHOKED DISK *

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In a former paper,[1] introductory to this series, it was related that reliable perimetric observations had been possible in 123 patients in a series of 200 cases of cerebral tumors. These had shown normal fields in twenty-seven instances, a tendency toward hemianopsia in forty-two, and color interlacing or inversion (dyschromatopsia), with more or less symmetrical constriction, in fifty-three instances. It is our present purpose to give specific illustrations of the cases showing dyschromatopsia and to correlate them, so far as possible, with the stages of an advancing choked disk, especial emphasis being laid on the field deviations coincident with, or antecedent to, the earliest ophthalmoscopic changes.

There have been ten cases of tumor which have shown color-interlacing, either in the total absence of a choked disk or with a very incipient process observable in the eye-grounds. As the reader will surmise, therefore, these represent cases in which definite localizing (irritative) symptoms have led to a precocious surgical intervention and consequently to the best operative results. Thus in these ten cases the tumor was enucleated in five instances, was exposed and considered irremovable in one, and was unlocalizable and not disclosed by the operation (decompression) in four. In all of them the normal color relations were restored after the operation.

It is possible for convenience in this analysis to subdivide these cases which have exhibited early color distortion into three groups: (1) those in which, in the total absence of even an incipient grade of choked disk, interlacing was bilaterally equal; (2) those in which definite interlacing was unilaterally represented; (3) those in which interlacing coincided with a low grade of choked disk, but disappeared after a decompression, before the subsidence of the edema. Illustrations may be given of each of these groups.

GROUP I. DYSCHROMATOPSIA ANTECEDENT TO ANY OBSERVABLE CHANGE IN THE NERVE-HEAD

The following case shows that an enormous growth, if slowly advancing and unaccompanied by coincident cerebral edema, may progress for years without producing any of the usual pressure manifestations whatsoever, and that distortion of the color-fields may be the earliest indication of their appearance.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] The first paper in this series (The Johns Hopkins Hospital Bulletin, June, 1911) gave some statistical studies of the results of perimetry in our series of 200 cases of brain tumor. The succeeding three papers will be devoted, respectively, to the binasal, bitemporal and homonymous hemianopsias observed in these cases.

CASE 1.—Surgical No. 25,396. *Enormous endothelioma of right hemisphere causing focal epilepsy and hemiparesis but no pressure symptoms except a slight grade of color interlacing.*

History.—Dr. W., aged 49, was admitted Feb. 4, 1910. The patient received a blow on the cranial vertex in 1898, and six years later began having attacks of focal epilepsy, starting with an aura in the left foot. There was gradual loss of control of the left foot and hand, with marked spasticity. An examination in April, 1909, disclosed no pressure symptoms whatever, aside from the fact that though the color-fields were wide there was some slight interlacing of the blue and red outlines. During the succeeding ten months the patient, who was leading an active life, was repeatedly observed, but there was no apparent advance in the symptoms. He had never had a headache; never any nausea; never diplopia. There was some fulness of the retinal veins but no edema. Visual acuity was normal. The fields on Feb. 4, 1910, showed practically the same conditions as on the examination ten months before (Fig. 1).[2]

Operation.—On February 5 and February 9, in two stages, an endothelioma weighing 198 gm.—the largest tumor in our series successfully extirpated—was removed from the right hemisphere. In view of its large size one would have expected at least some pressure encroachment on the upper fibers of the radiation which would have produced a "slant" at least of the contralateral (left) fields in their lower portion.

February 25, the fields showed a complete restoration of the normal outlines. August 26 (six months later), the normal relations persisted (Fig. 2).

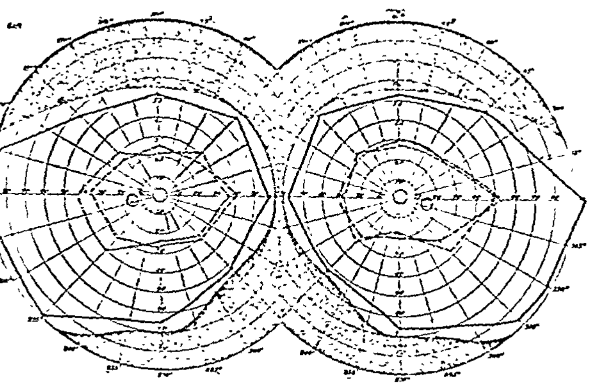

Fig. 1.—Charts of Case 1 before operation, showing characteristic blue and red interlacing with some constriction of color-fields.

There are two other cases in the series in which Jacksonian attacks represented the chief clinical manifestations of the lesion. Both came under observation at an early stage, before the occurrence of any recognizable changes in the eye-grounds. The distortion of the fields was more marked, if anything, on the side contralateral to the lesion in both cases.

CASE 2.—Surgical No. 18,602. *Glioma originating in left motor cortex, causing focal epilepsy with color-interlacing as the only evidence of pressure.*

History.—Miss T. M., aged 22, was admitted Dec. 31, 1905. Attacks of focal epilepsy with an aura in the right foot, succeeded by weakness of the leg, followed a cranial injury received six months before. There were no pressure-symptoms, except the very definite interlacing (at that time not recognized as an evidence of pressure). The ophthalmologic condition was normal in all other respects. No trace of neuroretinal congestion or swelling. On January 10 a glioma the size of a pigeon's egg was removed from the mesial end of the left precentral convolution.

It is to be noted that the right field (Fig. 3) shows some tendency toward an upper temporal defect which may indicate a beginning implication of the left visual pathway, though the defect is not bilaterally represented. An extradural clot formed in this case, and on the day after the operation the patient gradually became stuporous and a definite choked disk was then found. The flap was reelevated and the clot removed, but she did not survive. There are no postoperative fields, therefore.

CASE 3.—Surgical No. 23,150. *Syphiloma of right inferior parietal lobule causing focal epilepsy with sensory aura in left hand. Color-interlacing without choked disk.*

History.—Mr. A. S. J., aged 47, was admitted Nov. 3, 1908. The patient had had attacks of focal epilepsy beginning with a sensory aura in the left hand for the previous six months, with some right-sided headache.

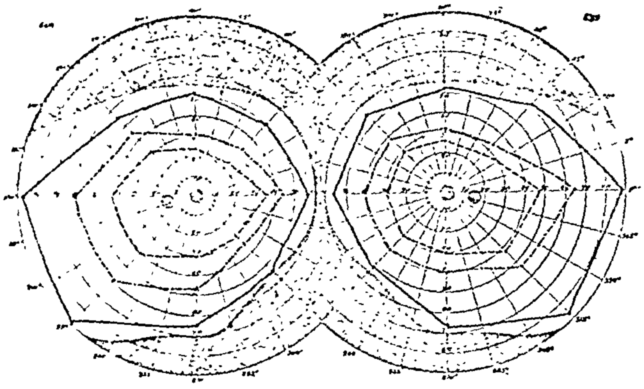

Fig. 2.—Charts of Case 1 after operation, showing restoration of normal color relations after tumor removal.

Examination of Eyes.—Pupils unequal; right 7 mm., left 4 mm.; irregular contour. This condition was noted a year before present symptoms were observed. Right pupil reacted promptly to light; left sluggishly. Consensual reaction poor from right to left; fundi negative; acuity normal. Fields (Fig. 4) showed typical interlacing, with superior constriction (due to deep-set eyes and overhanging brows), particularly of the left form field, and an almost total inversion of blue within red on the right. It is interesting that the patient is a buyer for a large drygoods establishment and is considered an authority on colors.

Operation.—November 7. A large fibrous tumor (histologically a syphiloma) was disclosed and removed from the right inferior parietal region. There were no postoperative complications. Inequality of the pupils had practically disappeared by November 10, though the right remained somewhat larger than the left.

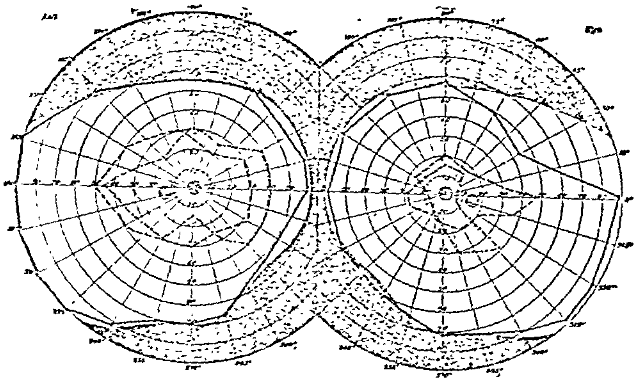

Fig. 3.—Charts of Case 2 before operation. Color-interlacing and constriction more marked on the right.

November 29 the color-fields were found to have resumed their normal relations without interlacing, though a slight irregular constriction persisted.

GROUP II. UNILATERAL DYSCHROMATOPSIA ACCOMPANIED BY AN INCIPIENT GRADE OF CHOKED DISK

A number of examples of unilateral dyschromatopsia accompanied by an incipient grade of choked disk occur in the series, both conditions being more marked on the side of the lesion. Two illustrations will suffice. In the first case it will be seen that the interlacing was much more definite homolateral to the lesion. In the second case the degree of interlacing was about equal on the two sides, but there was more constriction on the side of the lesion. These and other cases suggest that the degree of interlacing may possibly prove to be of some localizing value, so far as the hemisphere involved is concerned, in very much the same way as the relative degree of choking in the two eyes may sometimes prove of value in determining the side of the lesion.

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[2] In all of these charts the usual dot and dash indicates the blue; the broken dash, the red periphery.

Case 4.—Surgical No. 24,408. *Gliomatous "hypertrophy" of median right precentral convolution with focal epilepsy, headaches and color-interlacing, more marked on the side of the lesion. Incipient unilateral choked disk.*

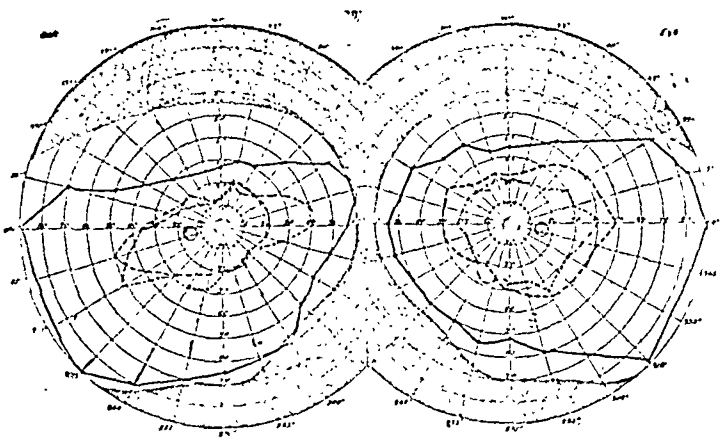

Fig. 4.—Charts of Case 3 before operation, showing interlacing, with almost complete inversion for the right eye. Superior flattening of the fields due to overhanging brows.

History.—Mrs. W. J., aged 33, was admitted July 12, 1909. Focal epilepsy with motor aura in left hand, of five years' duration; attacks more frequent and more severe of late, usually ending in a general convulsion; some headaches and occasional nausea; some slight subjective blurring of vision; progressive weakness of left hand and arm.

Ophthalmologic Examination.—Pupils equal; reactions normal; no oculomotor disturbances. Fundi: Some fulness and tortuosity of the veins and slight haziness of nasal margin on right; no measurable swelling; left fundus normal. The fields (Fig. 5) show characteristic blue and red interlacing, limited to the right eye, though the left shows a tendency in this direction. Acuity 20/20, both eyes.

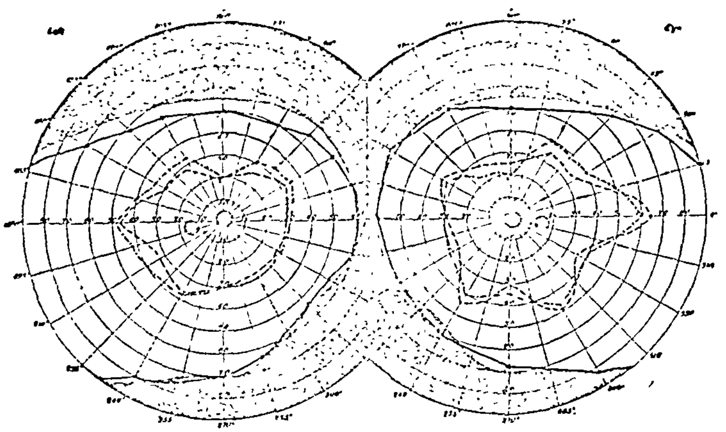

Fig. 5.—Charts of Case 4 before operation, showing interlacing confined to the right field, the side of the lesion.

Operation.—July 14. Extirpation of a large, firm and sharply outlined gliomatous tumor limited to the central portion of the pre-Rolandic gyrus; flap replaced without drainage; no subsequent complications. There was a slight postoperative edema of the disks in both eyes, with considerable haziness of the nasal borders.

The fields August 9, the day of the patient's discharge, showed a restoration of normal color relations, though there was still some constriction and irregularity of outline.

June 18, 1910, the patient returned for examination. She was well. The eyes were absolutely negative, with unusually wide color-fields (Fig. 6), with regular outlines and normal relations. Acuity: Right, 20/20; left, 30/20.

Case 5.—Surgical No. 27,397. *Tumor (uncertified) of left hemisphere, producing focal epilepsy. Homolateral color-interlacing and choked disk, disappearing after decompression.*

History.—Mrs. H. J., aged 49, was admitted Feb. 27, 1911. Attacks of focal epilepsy in right arm for several years, becoming severe, with occasional general convulsions. Some weakness of hand and foot of late, and thickness of speech. Headache, referred to left parietal region; never severe.

Examination of Eyes.—Pupils equal; reactions normal. Oculomotor: Some nystagmoid twitches both to right and left. Fundi: Right, practically normal with exception of some fulness and tortuosity of veins; left, obscuration of nasal margin and physiologic cup by edema; no measurable swelling; veins full and tortuous. Acuity: Right, 15/15; left, 15/25. Fields (Fig. 7) showed some constriction with definite interlacing on the left and irregularity of color outlines on right (presaging interlacing?).

February 28. Osteoplastic exploration revealed increased tension; no cortical lesion. Subtemporal decompression produced a complete subsidence of symptoms.

March 27. Examination revealed the following conditions: Fundi: Right, normal; left, slight haziness persisted on nasal margin and lamina cribrosa was still obscured. Acuity: Right, 15/15; left, 15/10. Fields (Fig. 8): Normal relations restored, though there was some constriction of all boundaries.

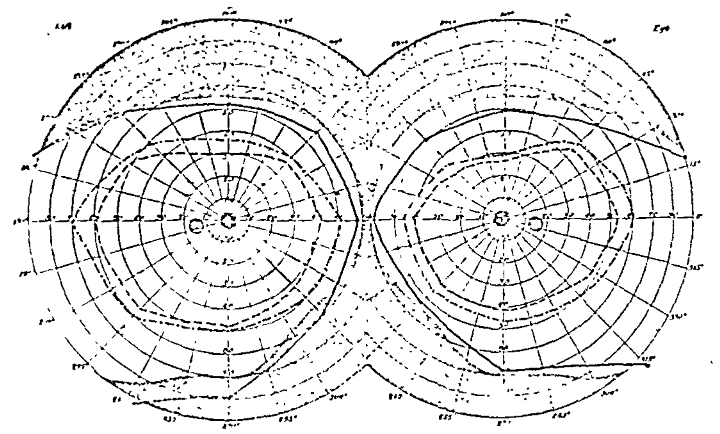

Fig. 6.—Charts of Case 4 ten months after tumor removal, showing unusually wide and non-interlaced color-fields.

GROUP III. DYSCHROMATOPSIA ACCOMPANYING EARLY STAGES OF CHOKED DISK. RESTORATION OF NORMAL COLOR OUTLINES BEFORE THE COMPLETE SUBSIDENCE OF THE EDEMA

These cases, of which there are several in the series, tend to show that the color-interlacing is a more delicate manifestation of pressure than an observable degree of neuroretinal stasis and edema. A single illustration will suffice.

Case 6.—Surgical No. 23,559. *Meningeal angioma of right temporal lobe. Recent headaches, color-interlacing and incipient choked disk the only symptoms of tumor.*

History.—H. R., colored, aged 39, was admitted Feb. 1, 1909. Transferred from Dr. Barker's service for decompression. Severe, constant temporal headaches for a few weeks. No localizing symptoms of tumor recognized.

Examination of Eyes.—Negative in all respects except for some haziness of disk margins, more evident on the left, where there was a measurable swelling of 1 D. The fields showed typical color-interlacing (Fig. 9).

Operation.—February 3. Left subtemporal decompression disclosed an unsuspected angiomatous tumor of the temporal meninges. There was complete postoperative subsidence of all symptoms. On February 11 the measurable swelling had disappeared. On February 15 the fields (Fig. 10) had resumed their normal outlines. On March 2 the disks, though fairly clear, still showed some slight engorgement and hyperemia.

PERIMETRIC DEVIATIONS IN RELATION TO GUNN'S SEVERAL STAGES OF CHOKED DISK

During the past few years there has been an increasing tendency on the part of those interested in the pathogenesis of choked disk to regard the process, from its incipient condition of vascular injection to the terminal secondary optic atrophy, as merely stages of one and the same underlying pressure disturbance. The studies of Alfred Saenger, Sir Victor Horsley, Leslie Paton, George E. de Schweinitz, Eugen von Hippel, Franz Schieck and others, based largely on the investigation of cases after surgical relief from pressure, have contributed much toward the common acceptance of the views originally advanced in large part by Schmidt-Rimpler and Manz.

One particular source of confusion was the tendency of ophthalmologists to designate the early condition as an "optic neuritis" and to reserve the term "choked disk" for the later manifestations, when a measurable swelling of the nerve-head occurs.

Marcus Gunn, in his discussion of J. S. Risien Russell's paper,[3] did a service in subdividing the gradations of choked disk—called by him "tumor papillitis"—into stages. These stages are necessarily more or less arbitrary and possess no sharp lines of distinction, but they are useful in conveying to others, without a long description, some fairly definite idea of the severity of the condition which is being considered. They have been adopted with some changes, by de Schweinitz in his admirable paper read before this section two years ago.[4] We too have ventured to make some modifications, though the main subdivisions remain about as Marcus Gunn originally gave them. To the mere description of the ophthalmoscopic picture we have added a note on the perimetric deviations and the changes in visual acuity which may be expected in each stage. It is important to bear in mind that the changes in one eye are apt to be in advance of those in the other. This is particularly true of such supratentorial lesions as are unaccompanied by ventricular hydrops—cases, in other words, in which the tension in one hemisphere is greater than in the other.

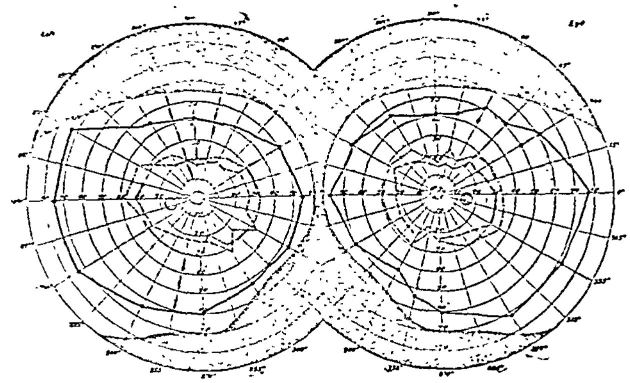

Fig. 7.—Charts of Case 5 before operation, showing interlacing confined to the left field, the side of the lesion.

Stage 1.—This shows some hyperemia of the disks with haziness of the upper and lower margins where they are crossed by the main vessels. This haziness gradually spreads over and obscures the nasal half of the disk, the temporal edge remaining clear. There may be some narrowing of the physiologic cup and the veins are slightly full and sinuous. Visual acuity is not affected. Color-interlacing is usual, and together with the retinal change may be more marked on the side of the tumor, if cerebral. A prompt restoration occurs after decompression.

Stage 2.—The swelling of the papilla, now obscuring the temporal as well as the nasal margin, has become measurable, the physiologic cup is filled in, and there may be an extension of the edema to the surrounding retina. There is an outspoken stasis with tortuosity of the veins. There is apt to be a subjective lowering of acuity. Interlacing is present with constriction. Rapid return to the normal follows relief of pressure.

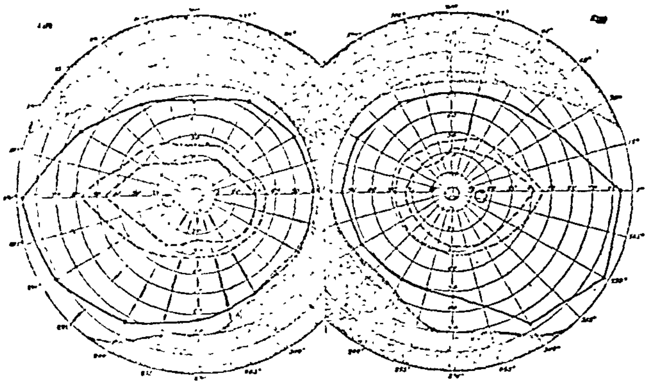

Fig. 8.—Charts of Case 5 after decompression, showing restoration of normal color-relations. Some neuroretinal edema persisted in left eye.

Stage 3.—There is a further swelling of the papilla, which is now definitely prominent and spreads over a larger fundus area. Its margins are lost. Fine striations appear in the edematous retina, particularly between disk and macula. Retinal hemorrhages may occur and venous stasis is marked, the congestion showing itself in the dilated palpebral venules as well as in the eye-grounds. Measured acuity is usually below normal. There is constriction of all fields, often with color inversion, but normal relations are restored, and usually normal acuity, after adequate decompression.

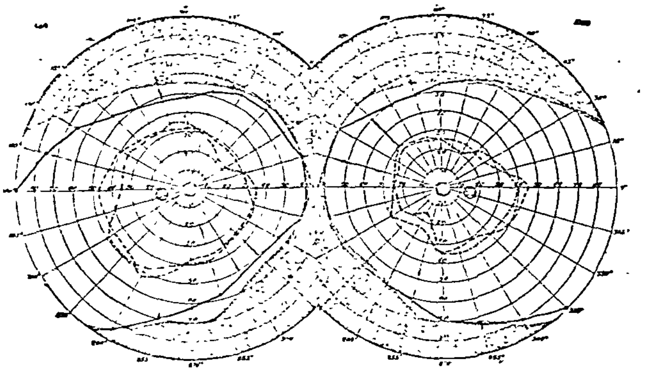

Fig. 9.—Charts of Case 6 in Gunn's Stage 1, showing bilateral interlacing as plotted before decompression.

Stage 4.—The papilla becomes more prominent and, losing its reddish color, appears more opaque. Hemorrhages may be more numerous and larger, and exudates similar to those seen in nephritis may be present on the disk or surrounding retina. Many cases, however, particularly those of slow onset, remain free from hemorrhages and exudates. There is new-tissue formation, giving a fluffy appearance to the disk. Acuity of vision is considerably lowered. There may be transient amaurotic periods. There is further central constriction and colors can often be recognized only in large sheets. Complete pressure relief, such as may be afforded by tumor extirpation, or by adequate decompression in a case with symptoms of short duration, may lead to an almost total restoration of vision, but if the condition at this stage has been of long standing and there is an excess of new tissue formation there may be a further postoperative lowering of vision as the edema subsides.

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[3] Russell, J. S. R.: The Indications for Operation in Cases of Intracranial Tumor, Brit. Med. Jour., Oct. 26, 1907, p. 1120.

[4] De Schweinitz and Holloway: The Operative Treatment of Papilledema Dependent on Increased Intracranial Tension, Therap. Gaz., July 15, 1909.

Stage 5.—There is a gradually decreasing vascularity of the papilla. Its surface becomes paler than normal and shows the fine, fluffy appearance due to new tissue formation, the contraction of which tends to produce a subsidence of the measurable swelling. This may disclose the shimmering atrophic disk as through a mist. The arteries tend to become of smaller caliber and the thickening of their perivascular lymph sheaths is apparent. This is the stage of atrophy with supposedly (Gunn) inevitable blindness. Acuity is practically reduced to the counting of fingers. There are frequent periods of temporary amaurosis. There is apt to be achromatopsia in one or both eyes, though small form fields (often requiring disks larger than 0.5 cm.) may be plotted. These often show a tendency toward a binasal hemianopsia with loss of central vision. Some vision may be preserved by operation.[5]

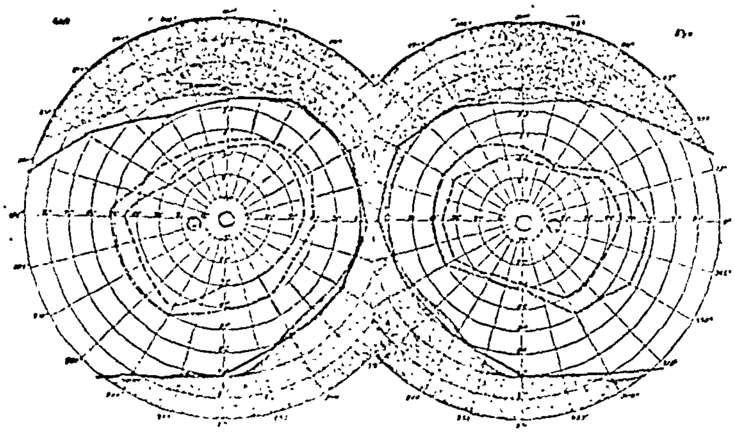

Fig. 10.—Charts of Case 6, showing return of normal relations two weeks after decompression.

This digression into the question of choked disk has been made for the purpose of allowing us to correlate the perimetric disturbances. more particularly the color-alterations, which are observable in these different stages. We have already seen that color-interlacing may actually precede the onset of the earliest stasis phenomena; also that in conditions of incipient though demonstrable edema of the nerve-head the color-interlacing disappears after a successful decompression before the ophthalmoscopic picture of the disk has entirely cleared. We have, in other words, already given records of perimetry not only for Gunn's first stage of choked disk, but also for certain antecedent states. Though these cases of early interlacing are the more important ones, it seems advisable to follow the perimetric changes through the succeeding stages.

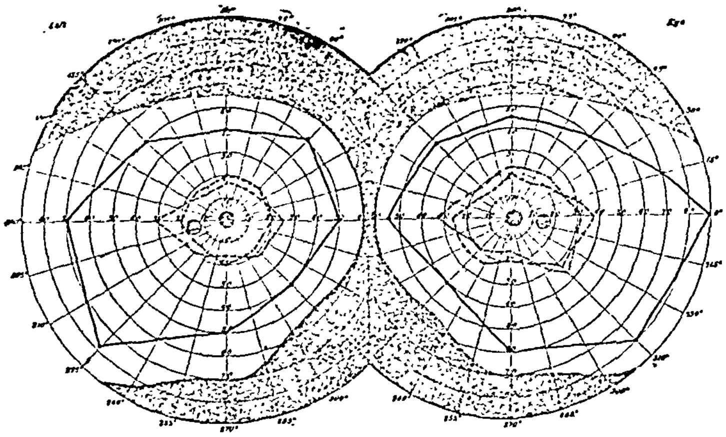

Fig. 11.—Charts of Case 7 before operation, showing interlacing and constriction accompanying Gunn's second stage of choked disk.

The following two cases have been chosen to illustrate Marcus Gunn's Stage 2, for they clearly show that the perimeter may be of almost greater value than the ophthalmoscope in determining the degree of severity of the process. The ophthalmoscopic picture in the first patient (Case 7) was clearly that of a low-grade, though long-standing, process, and yet the fields and measured acuity before and after operation show that the nerve-head had suffered permanent damage. In the second patient (Case 8) the condition of the fundi, with hemorrhages, a prominent papilla, marked perivascular streaking and some new tissue formation, would doubtless have been regarded as well along toward, or actually in, Stage 3, but the process subsided after the operation, leaving normal acuity, normal field outlines and no observable trace of its preexistence in the eye-grounds.

The case of long-standing but low-grade pressure, illustrating the perimetric changes observed in Marcus Gunn's second stage of choked disk is as follows:

Case 7.—Surgical No. 25,339. *Endothelioma of left cerebellopontine angle. Choked disk. Interlacing of color-fields. Suboccipital exploration with removal of tumor.*

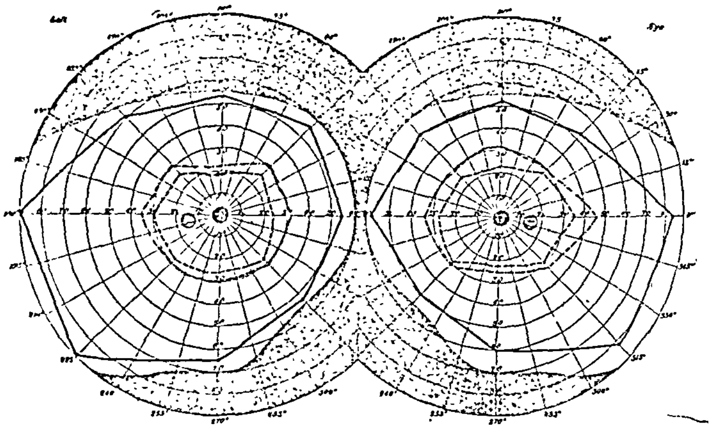

Fig. 12.—Charts of Case 7, showing postoperative restoration of normal color-relations before complete subsidence of second stage of choked disk. Some persisting constriction.

History.—Mr. A. J. B. was admitted Jan. 24, 1910. Symptoms of four years' duration were first noticed as an unsteadiness in gait, following an injury to the head. About a year before admission double vision occurred, and has persisted. *For the previous six months there had been increasing* deafness in the left ear, subjective tinnitus, vertigo, and, of late, considerable headache.

Examination of Eyes.—Pupils equal with normal reactions. Ocular movements normal, though convergence was rather poor and slow. There was *marked nystagmus,* coarse to the left, rapid to the right. Fundi: Right disk showed obscuration of the nasal margin with swelling of 2 D.; temporal margin fairly clear. There was marked tortuosity of the vessels, though they were not especially large. There were no hemorrhages or exudates. Left disk showed the *same* appearance, but here *the* swelling was only 1 D. Visual acuity (uncorrected): Right, 15/30; left, 15/50. Fields January 25 (Fig. 11) showed constriction of all boundaries with color-interlacing.

Operation.—January 27. Enucleation of left cerebellopontine tumor.

February 10. The fields showed widening of the color-boundaries but on the left colors remained somewhat interlaced. There was still some haziness of the nasal margins, though *the* swelling was less.

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[5] There are other subdivisions *which might* well be made, notably a Stage 6 descriptive of the fundus change which persists after total loss of vision in unoperated cases. It would be well also to incorporate with each stage a description of the tell-tale residual of the original process which follows complete postoperative subsidence of the edema.

February 25. The fields (Fig. 12) showed restoration of normal color relations and widening of form fields. Some haziness of the disks persisted. Acuity: Right, 15/20; left, 15/40.

Case 8.—Surgical No. 22.602. *Unlocalizable cerebral growth with choked disk and interlacing. Subtemporal decompression. Return of normal relations.*

History.—Mr. C. A. S., aged 32, was admitted June 30, 1908, complaining of persistent headache for two years with occasional projectile vomiting, loss of memory and change in disposition. He had had what he called "spells" with mental confusion and dim vision, but with no loss of consciousness.

Examination of Eyes.—Pupils rather widely dilated; equal; react to light and on accommodation. Ocular movements normal. Fundi: Right disk swollen about 4 D.; marked edema of the nerve-head, extending well out into the retina. Retina had a peculiar watered-silk appearance. A single exudate on the disk; no hemorrhages. Arteries were somewhat small; veins very large and tortuous. Left disk also measured 4 D.; picture practically the same as in the right eye, except that there was one hemorrhagic area on the upper and outer side of the disk. Vision (subjectively obscured): Right, 20/20; left, 20/15. Fields showed typical color-interlacing (Fig. 13) with but little constriction. Enlargement of blind spot.

Operation.—June 7. Left subtemporal decompression.

July 8. Both disks showed a number of small recent hemorrhages, but the swelling had receded to 3 D. and the retinal edema had subsided.

July 15. Subjective symptoms were entirely relieved; fields showed widening of the color boundaries with disappearance of interlacing (Fig. 14). Vision, 20/15 for each eye. Fundi showed swelling of 1 to 2 D. and some perivascular streaking; hemorrhages practically absorbed. The patient was discharged.

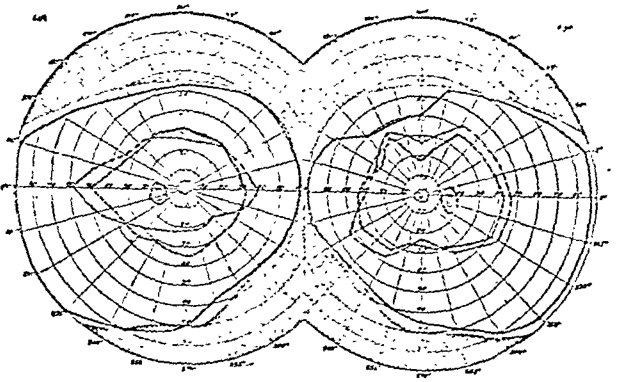
Fig. 13.—Charts of Case 8 before operation, showing interlacing without constriction accompanying a condition of the papilla approaching Gunn's Stage 3.

March 22, 1909. "It would be a problem to decide whether he has ever had choked disk" (Bordley).

The following case illustrates a further advance in Gunn's third stage, possibly approaching or actually in Stage 4; and yet beyond interlacing, which disappeared after the operation, and some persisting constriction, normal visual conditions were restored before the subsidence of the swelling:

Case 9.—Surgical No. 26.390. *Presumed cerebellar tumor with choked disk in advanced Stage 3 and interlacing. Postoperative restoration of normal color-relations.*

History.—Mr. G. W. H., aged 38, was admitted Aug. 12, 1910, giving a history of pressure-symptoms of a year's duration; at present severe suboccipital headaches, vomiting, ataxia, staggering gait, etc.; subjective blurring of vision for four months; diplopia for two months; attacks of temporary amaurosis frequent of late.

Examination of Eyes.—Pupils equal; reactions normal; palsy of right abducens; marked nystagmus, fine to right and coarse to left. Fundi: Right, swelling of 3 D.; disk fluffy and whitish; outlines completely obscured; cup filled and new-tissue formation apparent; veins tortuous; several hemorrhages undergoing absorption. Left, swelling 5 D, appearance much the same as on right, but there were several more recent hemorrhages near the disk. Fields (Fig. 15) showed some constriction, especially on left, with interlacing. Acuity: Right, 15/30; left, 15/20.

Operation.—August 13. Suboccipital decompression. Rapid subsidence of general pressure-symptoms.

September 3. No diplopia; no observable weakness of right abducens; coarse nystagmus persisted. Fundi: Marked recession of edema, which was now barely measurable. Disks fluffy and opaque, with outlines still hazy; considerable tortuosity of vessels; hemorrhages practically absorbed; veins somewhat full and sinuous; arteries likewise; some evidence of new tissue in cup and along vessels. Fields August 29 (Fig. 16) showed resumption of normal color-relations, with some form of constriction persisting.

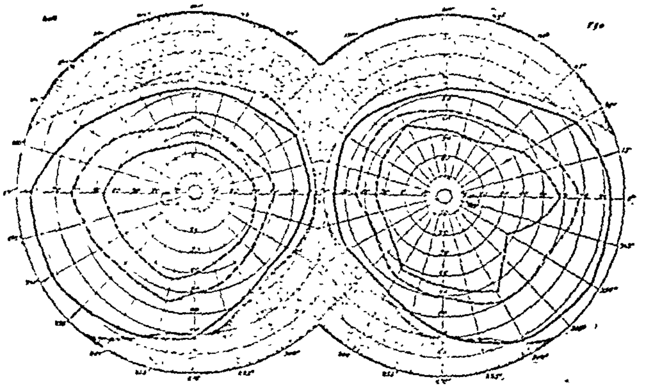
Fig. 14.—Charts of Case 8 thirty-eight days after operation, with normal color-relations and wide fields.

The following case (Case 10) is one well advanced in Gunn's fourth stage. The neuroretinal changes were not pronounced, but the perimetric deviations betray the severity of the process. There was marked constriction and interlacing, which was restored after operation about to the usual degree compatible with the advance of a choked disk to this stage.

Case 10.—Surgical No. 25,292. *Cerebral tumor, with choked disk in Stage 4. Interlacing and constriction, with postoperative restoration of color-relations.*

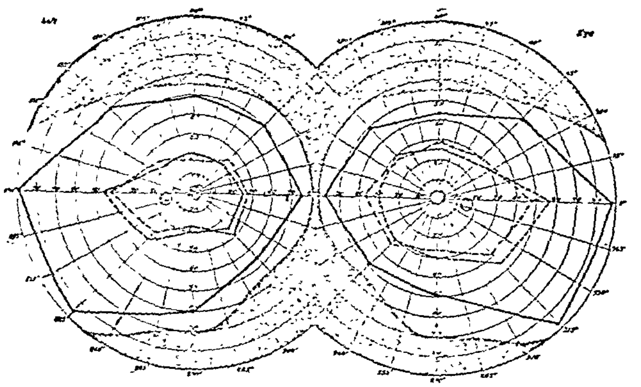
Fig. 15.—Charts of Case 9 before operation; interlacing with some constriction accompanying a condition of the papilla in an advanced third stage of choked disk.

History.—Mrs. E. F., aged 40, was admitted Jan. 14, 1910, complaining of right-sided headaches for one year following trauma; nausea and vomiting of late; failing vision for eight months; transient periods of hemianesthesia, with some awkwardness in movement and paresthesias on the left; periods of temporary amblyopia during severe headaches.

Examination of Eyes.—Pupils equal and reactions normal; movements normal. Fundi: Swelling 3 D.; edges lost and cup much narrowed. One hemorrhage on right. No exudates;

no excessive venous tortuosity. Fields (Fig. 17) showed constriction for form and colors with interlacing (1 cm. disks). Acuity: Right, 10/30; left, 20/30.

Operation.—January 17. Combined exploration and decompression over right hemisphere revealed marked tension, but no surface lesion.

January 28. Fundi: Practically no measurable recession of edema. Fields showed restoration of normal color-relations, but remained constricted.

February 7. Fundi: Swelling had receded to 1.5 D. in each eye. Fields (Fig. 18) showed some widening, but otherwise remained as on January 28. Acuity lowered to right, 9/30; left, 15/30. Subjective condition much improved. Patient discharged.

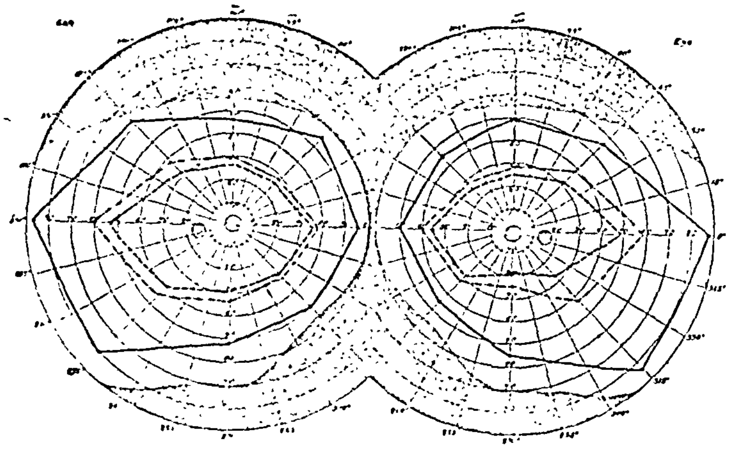

Fig. 16.—Charts of Case 9 sixteen days after operation, showing restoration of normal color-relations.

June 16. The patient returned for observation, as protrusion had become somewhat tense of late. The patient's general condition was much improved; she had gained in weight, etc. Fundi still showed about 1 D. of swelling; disk margins obscured; perivascular streaks apparent. Acuity: Right, 15/40; left, 15/20.

September 27. The patient was readmitted, owing to appearance of localizing symptoms (astereognosis, etc.). Fundi showed an increase of swelling to 2 D.; new tissue formation abundant in cup and along vessels; distention of veins marked. Fields: Color-interlacing had reappeared on the left. The right field remained about as on February 7 (cf. Fig. 18).

The patient subsequently developed a left homonymous hemianopsia, which is another story.

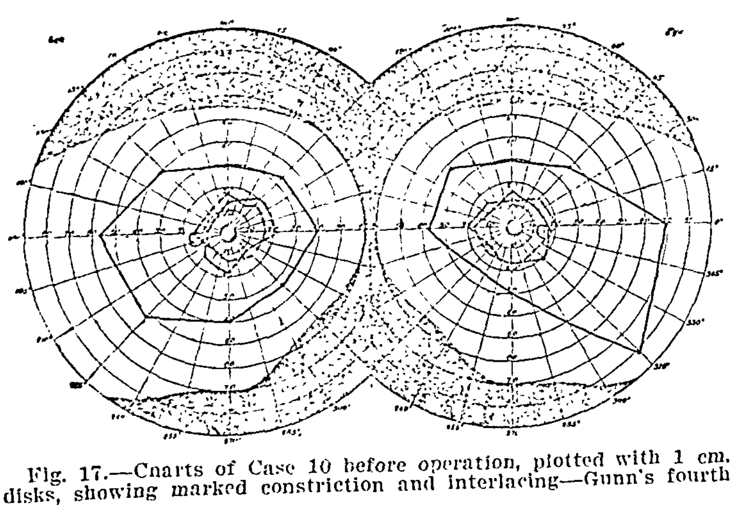

Fig. 17.—Charts of Case 10 before operation, plotted with 1 cm. disks, showing marked constriction and interlacing—Gunn's fourth stage.

Two cases have been selected to illustrate the perimetric deviations in Gunn's fifth stage. The first of these was a case of cerebral tumor, with the changes more advanced on the side corresponding with the involved hemisphere. In the second, a cerebellar case, the condition was about equal in the two eyes.

Case 11.—Surgical No. 25,090. *Cystic glioma of right frontal lobe. Choked disk in Stage 5, with marked impairment of vision on the right; Stage 4, with interlacing of color-fields on the left. Exploration with evacuation of cyst.*

History.—Mr. T. B. H., aged 28, was admitted April 18, 1910, with a history of neuralgic pains in the head for twelve years, several convulsive attacks with unconsciousness, paresthesias in left arm; headache during the previous year very severe; occasional vomiting. There had been some change of disposition and forgetfulness. Impairment of vision had been gradual. Frequent periods of amaurosis occurred, with occasional diplopia.

Examination of Eyes.—Slight exophthalmos on right. Pupils unequal; right 6 mm., left 5 mm. in moderate light. Both reacted to light and distance. No oculomotor palsy. Fine nystagmoid twitches on looking up and to the right. Fundi: Right, swelling of 4 D.; marked distention and tortuosity of veins. Disk appeared opaque and glistening from definite atrophy; its outlines were recognizable though hazy. There were no hemorrhages, but numerous exudates. Left, swollen 5 D. Great tortuosity of vessels with distinct perivascular streaking. Evident atrophic changes. Fields (Fig. 19): Right, no colors recognized; constriction with tendency to nasal blindness; left, constriction and interlacing, with almost complete blue inversion. Visual Acuity: Right eye reduced to counting of fingers with difficulty; estimated acuity, 15/100; left eye, 15/30.

Operation.—April 23 and 27. Osteoplastic resection with evacuation of large left precentral cyst was performed in two stages. Despite the marked general postoperative improvement a further lowering of vision took place.

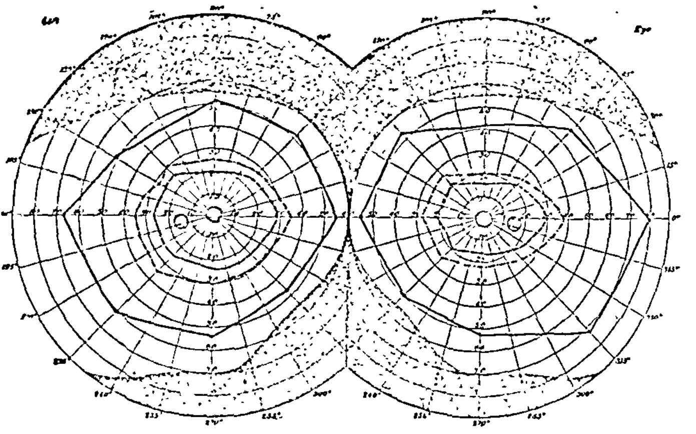

Fig. 18.—Charts of Case 10 three weeks after operation, plotted with 1 cm. disks.

On May 9 the fields (Fig. 20) showed a further constriction with a definite tendency toward a binasal defect. Normal color-relations, however, were restored. Fundi: Right, swelling of 1.5 to 2 D.; glistening appearance; perivascular streaking marked. Left, no measurable swelling; abundant new tissue formation, more evident than before. Acuity: Right, 3/100; left, 8/20.

Aug. 12, 1910. The patient returned for observation, much improved. Fundi: Right, disk fluffy and glistening; no measurable swelling. Left had practically the same appearance; evidently a quiescent process. Fields practically the same as on May 9; the constricted color-field on the left showed no interlacing. Acuity: Right, reduced to counting fingers; left, 10/20.

The history just recited shows that with adequate relief from the existing pressure disturbances a choked disk, even in this advanced stage, may subside and some vision still be preserved in spite of the contraction of the extensive new-tissue formation.

The following and last of the cases which we have selected to illustrate the terminal stage of Gunn's subdivisions was an acute case and, surgically speaking, a most unfavorable one. It illustrates, however, the existence of interlacing even to the final blotting out of central color perception. Though there was some lowering of vision after the decompressive operation, fairly useful sight (though not for reading) was preserved until the patient's death.

Case 12.—Surgical No. 24,778. *Unlocalizable (presumably cerebellar) tumor. Choked disk in an advanced stage, with tendency toward a binasal defect. Bilateral decompression. Advancing condition halted short of blindness.*

History.—Mr. W. V. M., aged 40, was admitted Oct. 6, 1909, complaining of severe occipital headaches for eighteen months, occasional vomiting, blurring of vision for five months, attacks of total amaurosis for two months and at time of admission occurring with every change of position, marked photophobia. Neurologic study suggested subtentorial lesion.

Examination of Eyes.—Some slight exophthalmos; more marked on left than on right. Marked congestion of palpebral venules. Pupils wide, right slightly larger than left; reacted well together to light, distance and consensually; right less responsive alone. No loss of muscle balance. Some suggestive nystagmoid twitches. Fundi: Right, swelling of 9 D.; edema extended two disk diameters onto retina. The disk was very prominent; peaked at the center; the edge overhung the retina. Numerous yellowish exudates and white connective tissue deposits; no hemorrhages. The veins were full and excessively tortuous, dipping in and out of the edema. The arteries were small. Left eye showed practically the same condition; swelling of 7.5 D. Fields (Fig. 21): marked and irregular constriction, especially of color-fields, which interlaced. Acuity: Right 40/60; left, 20/60.

Operation.—October 8. Right subtemporal decompression was performed.

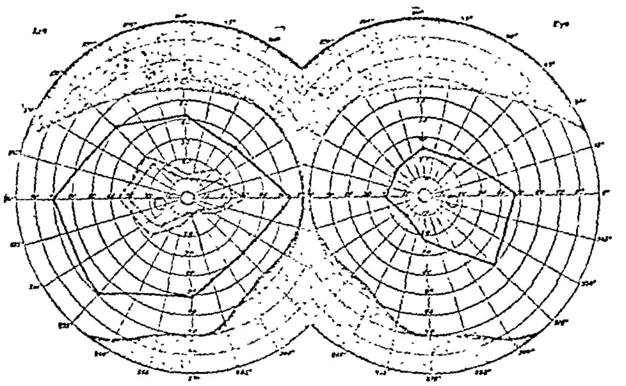

Fig. 19.—Charts of Case 11 before operation. On the left interlacing and constriction, with Stage 4 of choked disk; on the right, achromatopsia and marked nasal constriction in Gunn's fifth stage.

October 11. Fundi: Right, swelling 7.5 D.; left, 6.5 D. No change in general appearance.

October 14. Fundi: Right, 6.5 D.; left, 6.5 D. Subjective improvement in acuity. Cessation of attacks of amaurosis.

October 19. Fields had widened somewhat. Fundi: Right, 6 D.; left, 6 D. Retina less edematous. Acuity: Right, 30/60, left, 20/60.

October 21. Acuity: Right, 21/60; left, 12/60. This rapid lowering made further decompression seem urgent, and on October 23 a left subtemporal decompression was performed.

November 1. Fundi: Right, 5.5 D.; left, 5 D. No retinal edema. Acuity: Right, 21/60; left, 6/60.

November 8. Fundi: Right, 5 D.; left, 4.5 D. No change in general appearance, though veins were less tortuous. Fields (Fig. 22) showed further constriction, with especial loss on nasal side, where colors were no longer perceived. Acuity: Right, 9/60; left, 3/60. Patient discharged.

November 24. The patient returned for observation. Fundi: Right disk measured 2 D.; disk margin coming into view; fluffy appearance from abundance of new tissue; obvious atrophy. Left disk less clear; 3 D. of swelling; margins still obscured. Acuity not so good as on November 8. Fields not taken. Patient was subjectively much improved, but the protrusions were tense and the suggestive cerebellar symptoms more pronounced. There was obviously an internal hydrocephalus. Suboccipital exploration was refused.

Vision continued about at this stage for two months and then improved somewhat. In March, 1910, he was able to write some and on "good days" could read large print, according to his wife's statement. He fell under the spell of Christian Science and died Oct. 15, 1910. No examination.

It is thus apparent that even in this final stage of Gunn's classification some vision may be preserved after operation and that even though the color-fields are greatly constricted they may still show interlacing of their boundaries. The terminal perimetric distortion for both eyes in this case exhibits a tendency toward a binasal defect, particularly for color-perception. A defect of this character was likewise apparent for the right eye in Case 11, the condition having progressed, however, to the stage of complete achromatopsia. These last two cases will be found to merge into the group of twelve cases, mentioned in our statistical analysis, which exhibited a final tendency toward a binasal hemianopsia with loss of color vision, a small central area of bitemporal vision for form alone persisting after the postoperative subsidence of the advanced grades of choked disk.

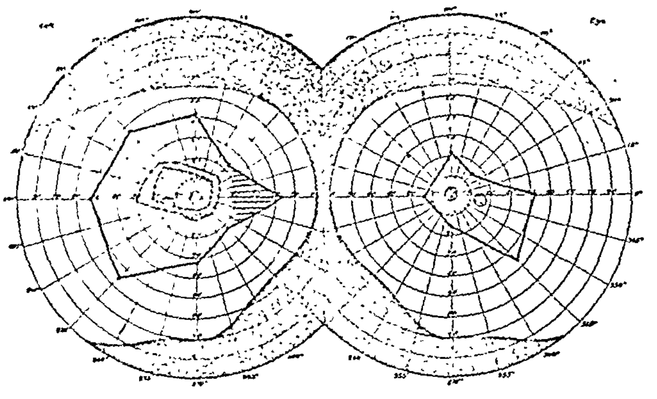

Fig. 20.—Charts of Case 12 twelve days after operation. Restoration of color-relations on left, with advance in constriction for both colors and form.

A full description of these twelve cases of so-called binasal hemianopsia will be reserved for another paper in this series. They are here referred to in order to show that the prognosis for some postoperative preservation of vision is less unfavorable in this fifth stage than Marcus Gunn was led to believe.

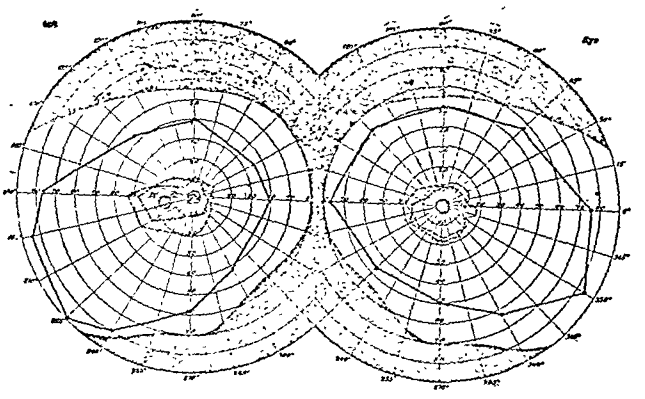

Fig. 21.—Charts of Case 12 before operation, taken with 1 cm. disks. Marked color constriction with interlacing in Gunn's fifth stage.

SUMMARY

Out of the 123 cases in our tumor series in which perimetric observations could be made, fifty-three showed simple color-interlacing or inversion with more or less constriction of the field boundaries.

In ten of these fifty-three cases the dyschromatopsia either actually preceded any recognizable ophthalmoscopic change in the eye-grounds or accompanied most incipient stages of choked disk. These distortions of the color boundaries, therefore, promise to be of some service in the making of a more precocious diagnosis of an increase of intracranial tension than is commonly ventured on. Thus, in a number of cases of early tumor extirpation, color inversion and interlacing, in addition to attacks of Jacksonian epilepsy, were the only clinical indications of the lesion.

We have attempted to correlate the perimetric deviations, observed before and after operation, in the remaining forty-two cases of simple dyschromatopsia, with the accompanying grades of choked disk subdivided into six groups according to Marcus Gunn's classification.

Until the perception for colors is completely lost, inversion or interlacing is often apparent, even in the greatly constricted color peripheries characterizing the advanced stages of choked disk.

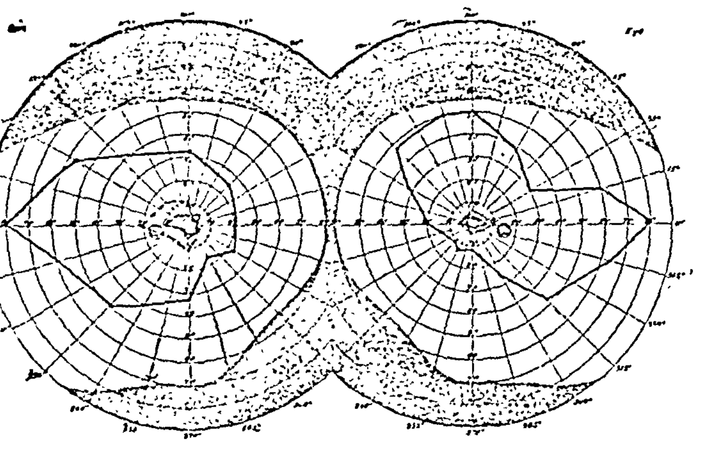

Fig. 22.—Charts of Case 12 a month after operation (1 cm. disks), showing further constriction, especially of nasal fields, with nasal hemiachromatopsia.

Though permanent achromatopsia is usual, total loss of vision is by no means inevitable even when the process has advanced into Gunn's fifth stage.

107 East Chase Street.

[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

CLINICAL DEDUCTIONS IN THE STUDY OF TUBERCULOSIS *

WILLIAM PORTER, A.M., M.D.

ST. LOUIS

In a paper read before the Missouri State Medical Society, August, 1910, I presented some conclusions from a number of years' experience with tuberculosis, both in hospital and private practice. These had mainly to do with modifications of well-known methods of investigation and the interpretation of adventitious phenomena in the light of clinical research.

I now desire to present additional deductions, most of which are the result of a realization that much more is needed in the care of tuberculosis than the time-honored treatment of open air, food and rest—important as these may be. It has become the fashion to speak of patients who are living under these conditions as "taking the cure." Too often the physician, forgetting his own responsibility and need of study, breathes a prayer to Hygeia and turns his patient over to Mother Nature. We are caring for a specific disease and our care should be something more than general. "Back to Nature" is starting in the right direction, but each case should be personally conducted by a trained adviser. Regarding the pessimism of some practitioners concerning the results obtainable in tuberculosis, the von Rucks[1] well say: "Investigation will probably show that they treat their patients by general methods in which relapses are almost unavoidable."

In addition to the deductions made in my former paper, the following have proved of value to me. They have been worked out during the last eight years in my service at Mount St. Rose, at our state sanatorium at Mount Vernon and in my private practice. Eliminating, so far as possible, errors due to faulty observation and bias, I have come to consider them as reasonable and conclusive. The first two, while theoretically accepted, are not as yet, by many, made factors in the therapeutic problem. The other three have to me a definite value.

ARTIFICIAL IMMUNIZATION

The use of tuberculin is justifiable and established, but dangerous if not used with exceeding care. Trudeau holds that the physician who disregards as of no importance an increase of a minute fraction of a milligram of tuberculin, or a rise of a few tenths of a degree of temperature, will meet with disappointment and disaster. Lawrason Brown[2] says: "It is certain that tuberculin should be administered therapeutically only to those patients whose general condition is good, and it should rarely be given unless the temperature seldom goes above 99.5 to 100 and is normal or subnormal in the morning." With such statements from our highest authorities and others, and from my own experience with tuberculin, I would insist that the hypodermic method be employed only by those who have the most complete control of their patients, whether it be in the sanatorium or in private. In my own cases, not only do I begin with the minimum dose, but I enjoin complete rest for at least a week, or until the susceptibility of the patient can be estimated.

To render the use of tuberculin safer for those who cannot make the close observation needed in hypodermic methods, I have been experimenting during the last year with the direct inunction of an ointment containing tuberculin. I believe that one factor in the seeming results is the counter-irritation. If deep-seated irritation can produce surface stimulus and rigidity through a nerve-route, as is found in appendicitis or in the intercostal spaces over inflammatory processes within the thorax, why may not stimulation from local irritation on the surface be conveyed in the opposite direction by the same route? There may be something more in the old-fashioned blister than we are willing to admit.

With the surface application of tuberculin I believe it may be possible to have three results without danger: (1) the diagnostic test—not always definite, especially in the adult; (2) the therapeutic value and (3) the stimulus of counter-irritation. I am now using a pellet, made for me by Mulford & Co., of hydrated wool fat and cerate, each containing 0.2 gm. of old tuberculin. The skin over the lesion is washed with alcohol and slightly stimulated by rubbing with dry absorbent cotton. One-half of one of these pellets (equivalent in amount of tuberculin to the minimum injection of No. 3 serial

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* Read before the St. Louis Medical Society, April 15, 1911.

[1] Von Ruck, K., and von Ruck, S.: Specific Treatment in Pulmonary Tuberculosis, The Journal A. M. A., March 19, 1910, p. 954.

[2] Boston Med. and Surg. Jour., July 23, 1908.

dilution O. T.) is rubbed in with a glass spatula. If the test or other evidence is sufficient for diagnosis, slightly increasing amounts are used each third day.

While my experience has been too recent to be convincing, yet I am sure that enough of tuberculin can be absorbed by this method to secure reaction. In one case the temperature went to 100 F. repeatedly. White[3] reports favorably on the use of tuberculin through scarification, asserting that constitutional reaction from this method is as possible as by the hypodermic. Koppleman has applied the von Pirquet technic for the systematic administration of tuberculin and lauds its numerous advantages over the usual methods, and asserts that it surpasses them in mildness, constancy and gradual action.

If the inunction of tuberculin can be shown to be as effective as its use by hypodermic methods, or by scarification, we can add to its merits that of safety. I believe that the slight reactions indicate its therapeutic value, but so many factors enter into the computation of values when estimating results that more time must be given for the verdict. I have used it in eleven afebrile cases since October, 1910. In several there was an advance of 0.4 F. and in one the temperature advanced to 100.2 F. All of these patients are doing well, but theirs are favorable incipient cases with excellent surroundings. My first thought was to prove the comparative harmlessness and potency of this method. More extended tests are being made by Dr. English, assistant physician at the Missouri Sanatorium for Tuberculosis.

AUTO-IMMUNIZATION

There is a large field for investigation here. Every victim of tuberculosis has his own tuberculin. If resistance can be made early enough or before the supply is too rapidly taken into the circulation, the patient becomes immune. The number of cases in which gland tuberculosis has become latent, where no pulmonary infection exists, is an illustration. Because of the absorption of and greater or less reaction to this product of the local infection, it is wrong to add to the tuberculin by extrinsic dosage. Not till the fever and the general symptoms give evidence that the infection is latent and immunity begun, can we add the tuberculin of the laboratory. Even then it is possible to revive the former activity. Is it not possible to aid the process of auto-immunity to completeness? So often this is a result without interference that *a priori* it would seem possible.

Phillips,[4] in a plea for graduated exercise in suitable cases, says: "By reason of the accelerated circulation (due to exercise) a certain amount of toxin is carried through the system. The presence of the toxin stimulates the system to react and to produce certain opposing elements or autobodies." After a term of normal temperature, I have experimented by directing slight direct exercise, or, better still, passive exercise by means of the vibrator held lightly over the site of infection. The cases chosen were those of one-sided lesion in the first or second stages (Turban). In all there had been afternoon temperature which had disappeared under complete rest in bed. While the patients were still so confined, I induced local stimulation by graduated percussion.

In eleven cases, eight patients reacted slightly. The vibrator was used on six of these and two of the six had a temperature the succeeding day of nearly 100 F., which soon passed away. In all of the eight except one, reaction did not occur after two or at the most three trials. In the exceptional case the temperature increased after each of three trials till I feared to repeat it. In all the trials the percussion stroke was very light. Gentle general exercise produced the same results in these eight cases. The three which did not show increased temperature were possibly immune to auto-infection. I beg that no one will think I hold these results as conclusive. I record them only as suggestive, indicative of strategic points in our advance yet to be occupied.

INTESTINAL ANTISEPSIS

In the care of tuberculosis with all its tendency to wasting and malassimilation we must provide fuel and care for combustion; i. e., good food, well digested, and sufficient oxygen to meet vital requirements. Before food can be appropriated the alimentary canal in its different divisions and functions must be interrogated. I believe that special attention should be given the large intestine. It is at the beginning of this tract that we find the greatest number of intestinal flora, and the presence of bacilli in the fecal masses has been too often verified to be doubted. The attending constipation and diarrhea of the consumptive are among the common symptoms and the accumulation and distention in the right iliac region can be determined by any observer.

To the inability of the distended and weakened colon to evacuate its contents completely and the consequences of such accumulation containing the germ conditions of tuberculosis which easily find their way into the circulation, I believe that much of the fever in tuberculosis is due, being caused not alone from direct absorption from the lungs, but from the intestinal tract as well. Following this hypothesis, I have, in suitable cases, ordered daily an active enema, taken in the knee-chest position, slowly distending the colon as far and freely as possible. After several repetitions of this, a pint or more of normal salt solution is given as a substitute. In this way the lower bowel is kept free and comparatively aseptic. Two results seem to me to be due to this procedure. The functions of the upper tract are stimulated, as we might expect, and there is in many cases a diminution of fever with a fuller, slower pulse. The removal of the irritating contents of the colon with the germ products present and the absorption of the normal salt solution certainly in some cases are worthy of trial. When absolute rest is enjoined because of afternoon high temperature, I find the enema as above described a valuable aid. Sea water has been used in France in the ratio of two parts to five of fresh water for injections. Chartiers,[5] of the University of Glasgow, quoting from the *Berliner klinische Wochenschrift*, May, 1910, says that this dilution, being isotonic with blood-plasma, has very remarkable tonic properties which enable it to increase the power of the body to resist infection. These injections were made in the gluteal or scapular region, but I believe the enema of the normal salt solution as I have described may be equally effective. I have spoken of this before, but believe that it is worthy of repetition.

THE VALUE OF THE CACODYLATE OF SODA

In this very important field of internal medication in tuberculosis I wish to call attention to two agents. I do not mean to exclude others—as indicated by symptoms—but emphasize these because I believe in their effectiveness and because they have been too greatly neglected.

The first is arsenic. I prefer the cacodylate of soda, which is rich in arsenic (54.35 per cent.), and has a physiologic limit greater than the ordinary forms and dosage. The organic group to which this chemical belongs is composed of such modifications of arsenious acid, that they are almost deprived of active pernicious properties. A half gram of cacodylate of soda, corresponding to 0.33 gm. (5½ gr.) of arsenious acid, has been given to a dog without injurious consequences.

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[3] White and Van Norman: Arch. Int. Med., October, 1910, p. 449.

[4] Phillips: Brit. Med. Jour., Dec. 24, 1910.

[5] Brit. Jour. Tuberc., October, 1910.

Having studied the value of Professor Ehrlich's now famous salvarsan, which belongs to this group, though materially different chemically, one may the more readily consent to my statement of the worth of the cacodylate of soda. I have used the cacodylate of iron but see no advantage in it over the other. I use the hypodermic injection in normal salt solution, first, because there is little pain, which may not be said of succinimid of mercury or the arsen-phenol-amin of Ehrlich; second, because the dosage may be more exact, and third, because there is less of the alliaceous odor than when given by the mouth. Sometimes there is a slight local reaction, but, as a rule, very little. The effects of cacodylic acid in augmenting the number of red corpuscles to a certain standard and increasing nutrition and consequent weight and strength, were noted by Professor Gautier and Dr. Danlos[6] as early as 1899. For over three years I have employed it in a large percentage of my cases and believe it has a definite place in our therapeutics. One important requirement in its use is the need of individualizing the case. I find that some patients can be given three times as much as others, but it is probably safer to begin with a grain daily.

IODIN

Iodin is indicated in many phases of tuberculosis. It is an ideal germicide, and its action in stimulating metabolism and nutrition are well known. I use iodin in tuberculosis directly to meet these two indications. Possibly its most direct result is shown when brought into direct contact with the air-passages in influenza, acute pharyngitis, tonsillitis or laryngitis. Much depends on the method of application; and here the most direct is the simplest. A few drops of the tincture in a small glass is placed in a larger glass containing hot water. The direct heat of the water bath causes the rapid evaporation of the iodin, which when inhaled reaches every portion of the respiratory tract. This cannot be so well accomplished by the spray or the vapor, and the effect is almost immediate in the conditions above mentioned. In tuberculosis of the upper air-passages and of the lungs when there are ulcerated surfaces, this direct method has been of value to me. Its simplicity should not prevent a trial.

Flick advocates iodin inunctions by iodized oil or europhen in oil and this may be used especially in cases of slow resolution. I prefer 20 per cent. iodin, or in persistent high temperature, 20 per cent. of guaiacol.

Were it not that time forbids I would emphasize as an additional therapeutic agent the fixation of the chest in hemorrhage and acute tuberculosis with rapid absorption and consequent fever. This was described in my paper of last year before the Missouri State Medical Association. Another year's experience has added to my appreciation of it. I beg that the catalogue may not be considered complete. There are many other indications, such as the care of the heart, vasomotor instability, excessive cough, etc., but I have mentioned only those in which I believe I have been able to work out some helpful deductions.

In conclusion, I wish to express my sympathy with a statement made in the report of a "Symposium on Tuberculosis," by Professor Zwick[7] of Cincinnati. He says that physicians, it would seem—feeling that they have taught the general public and the politicians who preside over our destinies even in matters of health and sanitation, sufficient for the present, enough to go on, as it were, in the way of the underlying economic causes, hygiene and general measures—are now again turning to their own particular domain, the care and cure of tuberculosis.

3886 Washington Avenue.

FINE SILVER WIRE AS DRAINAGE MATERIAL

R. M. HARBIN, M.D.
ROME, GA.

I have been using fine silver wire, in the form of wicks, for abdominal drainage after operation for acute appendicitis, but my clinical data are as yet too incomplete to report, and the suggestion is submitted for the following reasons:

1. Wicks of silver wire consisting of 90 to 100 strands almost as fine as horse-hair firmly twisted like a tobacco twist, possess marked capillarity, which is more marked as the material increases in fineness. This can be illustrated by taking such a wick and inserting it into a test-tube, in the form of a siphon. While not equal in capillarity to gauze, it seems to retain capillarity longer. I have found that, after removing such a wick from an abdominal wound containing a seropurulent discharge in forty-eight hours, capillarity was as marked as it was originally. Furthermore, silver wire can combine the effect of tubular drainage with capillarity if the spaces between the outer strands are increased, while the harder the twist the greater degree of capillarity; or else the outer layers of the wick may be made of coarser wires.

2. Fine silver wires in twists, with cut ends to the periphery, are sufficiently pliable to avoid trauma, yet firm enough to retain the original shape, and can thus be adjusted to drain a tortuous tract and can be well applied for draining the postcecum. A rubber tube and gauze of corresponding size weighs 100 gr., while the silver wire wick weighs 128 gr., making only a slight difference in weight. The wick may also be made to bifurcate so as to reach more than one focus. Of course it is necessary for the wick to be firmly twisted, so that no omentum, etc., can enter the meshes, and one revolution of the twist is sufficient. The physical properties of silver wire as a drainage material make it adaptable to meet a great variety of indications.

3. In the presence of the fluids of the body metal silver perhaps develops feeble antiseptic (?) properties and possibly stimulates the formation of antibodies, and in the pre-antiseptic days of surgery these properties perhaps explained the great virtue of Marion Sims' discovery, in 1857, which, he concluded, "was based on the principles of rational inductive philosophy." In clean wounds such properties are unnecessary and in the presence of active suppuration would be impotent, but in the presence of mild and beginning infections, within the abdomen, the query arises: Would not this effect of silver wire, as a drainage, tend to antisepticize a mildly infected wound that would subsequently develop active infection? My own observations seem to warrant such an assumption, and this suggestion is offered for the purpose of further study.

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[6] Soc. méd. d. Hôp., June 16, 1899.

[7] Tr. Miss. Valley Med. Assn., 1910, Lancet-Clinic, Oct. 10, 1910.

THE USE AND ABUSE OF DIGITALIS IN DISEASES OF THE HEART *

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Since William Withering, a Birmingham practitioner, gave his "Account of Foxglove" in 1785, digitalis has been the favorite remedy in diseases of the heart. The great popularity of the drug, however, rendered it subject to abuse as well as to use. It suffered all through these many years and decades and still suffers to-day from misappliance and insufficient appliance in the very dominion it rules. For example, if precordial pain, palpitation or a murmur is made the basis for prescribing digitalis it is a misapplication of a valuable agent constituting a serious abuse. Or, if digitalis is ordered merely because the patient has "heart disease," the drug, no less than the patient, is grievously abused.

Another form of abuse of digitalis, even though the condition of the heart calls for it, is the withdrawal or discontinuance of the drug as soon as its therapeutic effects become manifest. Let it be distinctly understood that a diseased heart which has shown failure of compensation once or twice should be kept under the beneficent influence of digitalis as long as it keeps on beating, which means indefinitely.

A minor, but no less serious, abuse of digitalis is found in the overconfidence in the drug, namely, the prevalent belief that when digitalis is given, no other remedy is to be used in conjunction with it. The great majority of patients with lesions of the heart are anemic. Therefore, the administration of iron is just as important as the administration of the heart tonic, and both remedies must be continued without halt or hindrance. Then, again, in treating people with heart disease, be they young, old or middle-aged, if they are at the same time the victims of arteriosclerosis, nitroglycerin, or one of its allies, should be given separately or in combination with digitalis. The neglect of this precaution will necessitate the untimely withdrawal of digitalis to the detriment of the patient and to the discredit of the remedy. There is still another drug which digitalis demands as an associate in the relief of affections of the heart, and that is calomel. The continuous successful administration of digitalis requires that the patient shall receive fractional doses of calomel, say 1/8 grain, every fifteen minutes until one grain is taken, three times a week. The omission of calomel is an insult to digitalis. Whether calomel acts as a laxative, diuretic, vasodilator or eliminator of surplus digitalis makes very little difference. The all-important clinical fact is strongly in favor of its beneficial action in cardiac disease and in advancing and promoting the potency of digitalis.

The administration of calomel as an eliminator of surplus digitalis may strongly appeal to medical men who believe in the cumulative effects of digitalis. I myself regard the doctrine of the "cumulative effects" of digitalis as a myth which rolls along the ages like other ill-founded medical traditions, and which is copied by each and every writer on the subject without individual verification of the phenomenon. The sum total of the cumulative effects of digitalis amounts to a personal susceptibility to the drug, or to what is known as idiosyncrasy, no more and no less. Idiosyncrasies are plentiful. I know a woman whose susceptibility to quinin is so keen that one-fourth of a grain gives her an intense urticaria involving the whole body and rendering her miserable for a week or ten days. Some have a marked susceptibility to members of the coal-tar family, which produce in them scarlatinal eruptions. Who has not seen cases of distressing coryza brought about by one small dose of potassium iodid? I once applied a belladonna plaster to each breast of a nursing woman, for the purpose of stopping pain and checking the secretion of milk. Within twenty-four hours she developed acute mania, which disappeared with the removal of the plasters. Instances of susceptibility could be multiplied. Every physician must have a whole stock of them.

It is the same with digitalis. We come across patients who come under the disturbing influences of digitalis after taking one or two small doses. Such patients are a worry, for, in treating them, we are at once deprived of, and the unfortunate patients are denied, the beneficial effects of the best medicinal remedy for heart trouble. To rob the patient of the good of digitalis out of sheer fear of this old medical superstition is a terrible abuse of the time-honored heart remedy.

With all due deference to time and tradition, as well as to clinicians, writers and teachers of medicine, I plead guilty of heresy with respect to the doctrine of the cumulative effects of digitalis. I have devoted the last ten years to the study and treatment of cardiac affections in one of the largest clinics in the city, and have given digitalis in suitable cases for years uninterruptedly. If I may be permitted to add to this, ten previous years of general practice with frequent occasions for prescribing digitalis, and if it be remembered that I never yet have seen, or encountered, one single, genuine instance showing the cumulative effect of this remedial agent, I think that I have a right to hurl defiance at the old hoary tradition and challenge its truth.

The next point for consideration, and one which shall be classed among the abuses of digitalis, is the insufficient application of it.

To obtain the right specific effects of digitalis in a diseased heart, the proper dose must be ordered. Homeopathic dosage in cases which call for large doses is a waste of time, intelligence and patience. Here, then, is the starting point for the discussion of the second division of this paper, namely, the use of digitalis.

Generally speaking, every form of dilatation of the heart arising from every possible pathologic source is a fit and eminent subject for digitalis. But I desire to be selective and, therefore, will endeavor to particularize.

Because mitral insufficiency is the most common affection of the heart, it shall receive our consideration first.

The most intelligent and the most effective method of the study of the therapeutics of digitalis in this form of valvular trouble is to appreciate the correct stage of the valvular lesion, when one is called on to give advice.

Mitral insufficiency is divided into three stages: The first stage is characterized by one sign, and one sign only, and that is a mitral systolic murmur heard over the apex. The murmur may occupy the whole first sound of the heart or only part of it. The size and shape of the heart are normal, and subjective symptoms are conspicuously absent.

The second stage is characterized by the previously mentioned systolic murmur, plus displacement of the

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* Read at a special meeting of the Medical Association of the Greater City of New York, held in the Borough of Richmond, June 5, 1911

apex; some hypertrophy and dilatation, accentuation of the pulmonic second and slightly diminished pulse, when taken while the arm is held in an upright position, and compared with the pulse in the other arm, which is held in the horizontal position. Subjective symptoms may or may not necessarily be present at this stage.

The third stage embraces all the physical signs of the second stage, exceedingly aggravated, and includes subjective, and many other, signs and symptoms, such as dyspnea, cyanosis, bronchorrhea, dropsy, etc.

The first stage requires absolutely no treatment. The mere presence of the murmur is no indication for digitalis or any other drug. The patient is enjoying perfect health during this stage of the mitral valves and is blissfully unaware of any trouble, until his good (or bad) doctor tells him that he has "heart disease"; then the trouble begins.

The second stage requires no treatment as long as the valvular lesion gives rise to no subjective disturbances. As soon, however, as dyspnea makes its appearance, or cyanosis, or slight edema of the ankles, or a persistent dry cough, or dyspepsia with fulness and distress after eating, one or two or three of these signs or symptoms hurriedly demand digitalis.

In other words, these new conditions are signals of a heart that is in distress, or, to put it in clinical parlance, the heart shows failure of compensation.

The correct dose of digitalis to relieve this condition is twenty drops of the tincture three times a day, to be continued until all the disturbing elements resulting from poor compensation shall have disappeared. This usually takes three days. Thereafter the tincture is given in ten-drop doses and continued thus indefinitely.

Mitral insufficiency in the third stage, in its relation to digitalis, is comparable to a flabby puerperal uterus in its relation to ergot. To produce contraction in a uterus like that, and give it tone, small doses of ergot will do no good. Therefore, dram doses are ordered. So it is with a heart that has lost its entire compensation, through which loss most distressing and menacing symptoms have arisen. One dram dose of the tincture of digitalis should be given. If in twelve hours there be no satisfactory amelioration of the symptoms, another dram should be ordered. Not long ago I gave three drams a day to a male patient and they did him good. After the good effects of the drug are beginning to be noticed, the dose should be reduced to a half dram three times a day for the next two or three days. Thereafter, and forevermore, twenty drops of the tincture three times a day should be given with few, if any, interruptions as long as the patient lives.

One important point must be borne in mind while administering digitalis in doses larger than the usual or customary ones, and that is, to enjoin absolute rest in the recumbent position to avoid syncope, which sometimes results from sudden rising.

Aortic insufficiency does not require digitalis, while hypertrophy and dilatation maintain perfect equilibrium. The moment dilatation gets the upper hand, digitalis should be ordered. Dilatation in excess of hypertrophy will occur in aortic insufficiency in the last stage of the disease. When this takes places, the malady will be found to run a downward course. In many such cases relative mitral insufficiency supervenes, or is added, to the aortic incompetency; then dyspnea, cyanosis, dropsy, come on with a rush and fury and shorten the distance between the bed and the grave. Digitalis is here indicated, but extreme caution must guide the dosage. The dose should be small in the beginning; five drops three times a day the first day; six drops three times a day the second day; and thus the increase is gradually continued until the maximum dose of twenty drops three times a day is reached. As soon as the desired effect is produced, the initial dose is reintroduced and kept up indefinitely. Thus one notes the difference in the administration of digitalis in mitral and aortic insufficiency. In the one the initial dose is large and the subsequent dose small; in the other the initial dose is small and the following dose large, to return to the initial dose, however, when compensation is restored.

There is one very important contra-indication to digitalis in aortic insufficiency, and that is an intermittent pulse. When the pulse is irregular in time, the avoidance of digitalis is a part of wisdom. Then again, when digitalis is used in aortic insufficiency, here, more than in mitral insufficiency, the patient must remain in the recumbent position as long as possible, particularly right after the administration of a good-sized dose.

Mitral stenosis does not call for digitalis for the longest time of the duration of the disease. When compensation is good, not only digitalis but any other cardiac tonic is out of place and time. Even in the presence of beginning failure of compensation, as evidenced by a persistent, harassing cough, dyspnea and distressing palpitation of the heart, digitalis should be avoided. Strophanthus in small doses—say five drops three times a day—will work both agreeably and efficiently. Still better than the tincture of strophanthus is the group of the caffein preparations. Any member of the caffein family will yield good results. The best one of them, however, is the caffein sodiobenzoate (N.F.) in 5-grain doses every four hours. This drug fulfils the purpose of a heart tonic in mitral stenosis, until the heart failure is complete. When this stage arrives, mitral insufficiency, either real or relative, will be present plus excessive dilatation of the right and left ventricles and some bad sequelæ. This condition calls for digitalis and the dose should not exceed twenty drops of the tincture three times a day, to be rapidly reduced as soon as compensation improves. For some reason or other, mitral stenosis is not a friend of digitalis, and the only excuse for ordering it is a desperate condition of the heart and an eternal faith in digitalis.

Aortic stenosis, the most benign lesion of the valves, needs no digitalis until dilatation and failure of compensation occurs. Then digitalis is given in twenty-drop doses continuously. The curious thing about aortic stenosis is that for the longest possible time perfect hypertrophy of the left ventricle is maintained, but as soon as this beneficent condition is disturbed no amount of drugging and resting will restore compensation. For that reason, a daily large dose of digitalis is advocated indefinitely to keep the weary heart a-going on its rapid journey to an eternal standstill.

Just a word about the drug in chronic myocarditis. We are warned from time to time not to give digitalis in myocardial degeneration. My experience runs counter to this warning. Patients with myocarditis can stand fifteen-drop doses of the tincture three times a day very nicely. It does them a great deal of good. My patients demand it, if by chance or error it is omitted from their stock of medicines. Digitalis in myocarditis may not, in many cases, remove arrhythmia, as it does so beautifully in mitral disease, but it tones up the organ and in consequence of it, the unpleasant subjective phenomena improve, which, after all, is all that we want and all that we can accomplish under the circumstances.

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PREGNANT DOUBLE UTERUS

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FORT DODGE, IOWA

History.—The patient's family history was negative. She was 37 years old and had menstruated regularly every four weeks, the menstrual period lasting about four days. She had had six living children before present labor, and three miscarriages. I curetted one of the patient's uteri about two years ago and did not discover anything unusual about her anatomy.

Present Pregnancy and Labor.—I was called on the morning of May 27, 1911, to see patient. Pains were coming about every fifteen minutes. Vaginal examination revealed dilatation to about the size of a dollar. At this time I noticed that the cervix was unusually high. Upon external examination I found two distinct tumors, one to the left and one to the right of the abdomen. The right was considerably higher than the left. On palpation I discovered small parts and distinct motion on each side. The diagnosis of twins was made. The characteristic thing about the abdomen was a decided crease between the two tumors. After making the usual examination I went away. On returning in the afternoon, I found strong pains coming regularly, but dilatation progressing very slowly. So I went away again. Returning again at 9:30 p. m. I found dilatation complete but nothing accomplished in the way of expulsion. The presenting head was as high as ever. The woman, because of the long labor and unusually agonizing character of the pains, was becoming weak. Another physician and nurse were called, patient put under complete anesthesia and after the usual preparation a high forceps delivery was performed of the presenting baby. When my right hand entered the vagina to deliver the second child, I failed to find the baby in the dilated cervix, but the placenta was in evidence, which I delivered. But where was the second baby? Certainly not in the uterus from which the first came, because I had just explored that. When my right hand entered the vagina again I found something I was not expecting, namely, by the side of the dilated cervix, another cervix which was only partly dilated. In the vagina this cervix was separated from the first by a partition about one inch in thickness. I now discovered the real condition: two distinct and separate uteri, each with a distinct cervix and a distinct body, and each containing a fully developed baby. I then proceeded to dilate the second cervix with my fingers, after which I delivered the second baby by high forceps. Both babies (girls, each weighing 5 pounds) are still living. The mother made an uneventful recovery.

A CASE OF CEREBROSPINAL MENINGITIS

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SALT LAKE CITY

Patient.—April 26, 1911, the patient, a boy, aged 12, was too ill to attend school and, with the exception of a few short intervals, remained in bed all day suffering from sick headache and pain in the leg. During the day headache was increased.

Course.—The next morning the mother gave him one-half ounce of magnesium sulphate, which was vomited almost immediately. Vomiting continued at intervals until midnight. Vomiting came on suddenly each time, was projectile, and patient was unable to raise his head. From 12 o'clock until 4 a. m., April 28, patient was comparatively quiet, when vomiting was resumed, and was incessant until 11 a. m. At 8 a. m. patient was given castor oil, which was retained but a short time. The mother thought the boy was suffering from typhoid fever, and applied some measures of her own. From 11 o'clock the vomiting was less severe but during the night was renewed with previous severity and, when we saw him at 11 o'clock Friday morning, April 29, for the first time he presented the following symptoms: unconscious, with head and neck markedly retracted, and so rigid that head could not be moved; face and lips cyanotic, pupils unequal, pulse rate about 80, very irregular and very weak; temperature, subnormal, 97 rectal; positive Kernig; petechial hemorrhage, universal; Tâche cérébrale; hyperesthesia over the entire skin surface; patellar and other reflexes increased; profound state of shock. Diagnosis of epidemic cerebrospinal meningitis was made.

Treatment.—Patient was removed to the Holy Cross Hospital and an ounce of cerebrospinal fluid was withdrawn and 30 c.c. of antimeningococcic serum (Mulford) was introduced into the spinal canal. The fluid withdrawn was somewhat viscid, cloudy and slightly tinged with blood. Microscopic examination showed large numbers of pus cells and of the *Diplococcus intracellularis*, both free and within the leukocytes. Twelve hours after serum had been injected patient regained consciousness and showed signs of improvement. On the three subsequent days 30 c.c. of serum were injected after the withdrawal of the same amount of cerebrospinal fluid. Patient's condition showed marked improvement during this period and after four days his condition was so much improved that further injections were thought unnecessary. Patient was given sodium bromid regularly for several days, as well as a hot bath daily. A course of calomel was given twice during patient's stay in the hospital.

On the seventh day patient complained of pain in his joints; pain was especially severe in the left knee joint. A few doses of acetyl-salicylic acid controlled these symptoms. Patient remained in the hospital eighteen days, at which time he was apparently cured and is well at this time.

Section Discussions

VACUUM FIXATION OF THE LENS AND FLAP SUTURE IN THE EXTRACTION OF THE CATARACT IN ITS CAPSULE

VARD H. HULEN, A.M., M.D., HOUSTON, TEXAS

(Concluded from page 189)

ABSTRACT OF DISCUSSION

DR. G. C. SAVAGE, Nashville: Dr. Hulen's operation appealed to me the moment I read about it. It is known to most of you that I devised an operation for the extraction of cataract in its capsule and adopted a method that I believe is more simple and efficient than the Smith operation. I would never have done it except that I knew that I would never do the Smith operation. My method I have before described. I believe that Dr. Hulen's method is distinctly better than mine, and I am gladly willing to forget my own operation and Smith's for what Dr. Hulen has suggested. Do not let any one claim the operation. Let people tamper with the instrument as much as they want to, but do not let them tamper with the operation. I have had some experience in that line in regard to my muscle-shortening operation. Dr. Hulen's operation, I believe, will be the last to be devised for cataract extraction. All that we have to do is to let Dr. Hulen and others so perfect the instrument that he has devised and the exhaust-tube that he has also brought into use that none of us will be afraid to undertake it. Let us be a little careful while Dr. Hulen and others are making the perfected apparatus. I believe that Dr. Hulen is wrong in one step of his operation, and I told him so. I do not believe that the eye ought to be turned loose while that instrument is inside of it. I believe that the left hand—if the right eye is being operated on, and *vice versa*—should be set to the task of fixing that eye-ball so that it shall not move while the operation is being done, and that the very best method of fixing it is the grasp of the tendon of the internal rectus, which procedure I claimed, but had to surrender to another. But with the eye-ball fixed by means of the tendon-grasp, then with his instrument, made lighter than it is now—it is too heavy—and with that little cut-off entirely eliminated and some other means substituted, then introduce the instrument whether an iridectomy has been done or not, then let the exhaust be turned on, and I know that by shifting the instrument to the right and to the left it will tear the ligamentous attachments loose. And here comes in the beauty of his instrument. The ligaments can be torn easily by my instrument or in the Smith operation; but they can be torn so much more easily, delicately and beautifully by this instrument of Dr. Hulen's. Then when this is done, that same suction being kept up, the lens can be lifted out.

Dr. D. W. Greene, Dayton, Ohio: Dr. de Schweinitz said at the meeting of the Ohio State Medical Society that he did not believe that America would be behind the rest of the world in devising ways and means for the removal of cataract. He thought that the Smith operation was in the right direction. I have made a good many of these operations. The Smith is not a perfect surgical procedure. It is not so well suited to Americans as it is to the natives of India, who go into a trance for one and go to sleep and one can do just whatever one wants with them. Dr. Peter A. Callan of New York showed me the same principle as Dr. Hulen's in 1889. Dr. Callan had the rubber tube, but he had only a little syringe. It was a very imperfect apparatus. I do not think he ever used it. I do not say this to detract from the value of Dr. Hulen's method. If the intracapsular method proves that it is the right one, I am too proud to think that Americans should have a share in perfecting it to say anything derogatory to the method of Hulen or Callan. Dr. Hulen has the idea that Dr. Callan's instrument was for the purpose of sucking out the soft lens substance. I do not understand that that was all he claimed for it. I should be afraid of the instrument on account of the size of it. I cannot believe all that Dr. Hulen says of the operation. Seven hundred operations have taught me to respect the lens. You cannot touch it with the strabismus hook without rupturing the capsule, and Smith's instruction was to always use the flat side of it and to keep the cornea between it and the capsule of the lens. Granting that it comes through a very small hole, yet with a pressure of 25 pounds, it seems to me it will rupture. I shall be glad to see the operation demonstrated. I hope it is true, because if there is to be any improvement in cataract operations there is nothing too good for America to originate.

Dr. G. E. Bellows, Kansas City, Mo.: The operation and its possibilities appeal to me. Does Dr. Hulen ever in dividing the cornea entirely divide the conjunctival flap? Does that add to the difficulty in placing the suture? Would it be possible to place the suture as the first step, and then divide the cornea and the conjunctiva in one incision? If so, it would facilitate the placing of the suture, it would eliminate one separate step, and perhaps to a very slight degree shorten and simplify it.

Dr. John E. Weeks, New York: Dr. Greene has just said that the capsule will be ruptured if it is touched with the strabismus hook or any blunt instrument. I wish to testify against this statement, because I have used the strabismus hook on the capsule in the operation known as "immediate manipulation" for the ripening of cataract, an operation first described by Cooley of New York, and also described by a Chicago oculist, Dr. Bateman. If we open the anterior chamber we may rub the lens through the anterior capsule without rupturing it, as I have done a number of times, and the lens becomes opaque in a very short time—in from one to three weeks after such manipulation. In the instrument used by Callan, the cup has much the appearance of Dr. Hulen's. I have seen him use it only in cases in which the capsule had been ruptured; that is, for the removal of the lens substance. I do not know, however, whether he has advocated its use in cases in which the capsule has not been ruptured.

Dr. Mark D. Stevenson, Akron, Ohio: The particular thing for which I think we are indebted to Dr. Hulen is his courage. I did not know of Dr. Callan's instrument, but in the very early days of the Smith operation, three or four years ago at least when I learned of it, I devised a practically similar instrument; I have the drawings of it at home. I did not know of Dr. Hulen's instrument, as I did not receive my presession book until I came here. One point of difference in my instrument was that I wanted to control the pressure right at the instrument, and I had the idea of a plunger for the index-finger above in case it was desired to shut off the air; this could be shoved down, immediately shutting off the air, giving immediate control. The other idea that I had not determined, as I did not have the instrument made, was whether the cup should be of metal or soft rubber, so that it would adjust itself better to the lens. My fear was lest if the vacuum cup did not immediately seize the lens, it would withdraw all of the aqueous. If the vacuum could not be immediately controlled it might remove vitreous. Hemorrhages are more likely to result from lowered intra-ocular pressure than from increased pressure, which expels blood from the eye. Great safety lies in extraction during the outflow of the aqueous. The conjunctival sac nearly always contains dangerous bacteria, and there is danger of sucking liquids into the interior of the eye-ball if one does not get contact immediately. I was also afraid of catching the iris. In removing the lens one has not only the thickness of the lens in the section, but one has this instrument added to it, which necessitates a larger section. The conjunctival flap adheres without suturing. I have found them stuck before I wanted them, before the columns of the coloboma were placed, so that it had to be partially separated before replacing the iris. The conjunctival flap should be turned back. A suture is unnecessary, is slightly irritating, and heightens the risks unavoidable with tying knots on the open eye-ball. As to the breaking of the suspensory ligament, Dr. Hulen will, of course, know better than any of the rest of us, but it strikes me that in this twisting he pulls on every part at once and gets the greatest resistance possible. It seems to me a little rotating and tipping of the lens, bringing tension on one edge, would be better.

Dr. Melville Black, Denver: It occurs to me that a hole might be run from the center of the instrument to the periphery and simply putting the finger over that hole or taking it off would immediately control the pressure on the capsule. For instance, if with the suction on and the instrument in contact with the lens, one found one had the iris, one would have to stop to turn off the cock. With the hole according to my suggestion, one could take the finger off the hole, readjust the instrument, put the finger back on the hole again, and it would begin again to take hold. If the hole were put in the side of the instrument without any prominence it might be difficult to know whether or not the finger was over it, but it would be an easy matter to put a little elevation there. I feel with Dr. Savage that it is quite important that the operator should personally have that air under his own control, and it should not be entirely under the control of the nurse. I also feel that it is important that the eye should be fixed. Of course, one does not know until one tries it. Dr. Hulen does not feel that fixation is absolutely essential. Those of us who have been in the habit of fixing the eye-ball in many of our cataract operations feel the necessity of continuing it with any operation of this kind until we are thoroughly familiar with it. It occurs to me that every Tom, Dick and Harry will be making this instrument unless it is possible in some way to control its manufacture, the idea being to control it to a certain extent, at least, and cause the instrument-maker to submit to Dr. Hulen all these cups so that he can see that every one is correct. This is important. They should all be inspected by Dr. Hulen, otherwise the operation will come into disrepute. As we know, the instrument-makers turn out instruments which we devise in such a way that in a few years they are scarcely recognizable.

Dr. James W. May, Kansas City, Kan.: Has Dr. Hulen had experience in removing the dislocated lens, a condition which has given me a great many worries? I think if the instrument is useful in cases of senile cataract it certainly would be in a case of dislocated lens if one could get the vacuum cup properly placed in position on the lens.

Dr. Edward Jackson, Denver: I have had the experience to which Dr. Weeks alludes as to the tolerance of the lens capsule to manipulation in doing ripening operations. I do not think I have ever ruptured a capsule. In doing it I have worked the spatula over the capsule in direct contact with it for a considerable time. It occurs to me the difference is in the tension of the capsule. We know how easy it is to cut a tense string, and how easy it would be to make a break in a tense capsule. Dr. Greene has touched the capsule when it was tense in the expression of the lens; but until it becomes tense I do not think there would be any particular danger of rupturing the capsule. It seems to me likely that until the ligaments had been ruptured there would not be much danger from escape of aqueous into the instrument. A certain amount of aqueous I suppose would enter the instrument in picking up the lens in any case. If one failed, however, to get the instrument properly applied to the front of the lens very soon after opening the vacuum, it might possibly give trouble. It occurred to me that the conjunctival suture was not a necessary part of this form of extraction; that possibly the vacuum cup and the conjunctival suture could stand or fall entirely independently.

Dr. Frederick Stauffer, Salt Lake City: The use of the suture has been practiced for a great many years by Cault of Paris, but he takes it before the operation. He dips it into the margin of the cornea, passes it over, makes another dip into the episcleral tissue, pulls the suture aside and makes the incision. It seems to me it would be better to make it before making the corneal incision. We know it is difficult to manipulate the eye after the incision in the cornea is made. It would be better to put it in first for that reason.

Dr. William F. Mittendorf, New York: I want to point out the difference between the ripening of a cataract by means of the blunt part of the hook and the method of Smith, who, as I understand it, ruptures it with the point of the hook.

Dr. Vard H. Hulen, Houston, Texas: I have done this operation only eight times and have learned only what one can learn in doing it so few times. I took into consideration every suggestion that has been made here this morning, and for good reasons, from experience, have turned them down. For instance, Dr. Black says he would control the vacuum by making a hole and putting his finger over it, and when he did not want the vacuum he would remove his finger. He did not think that in doing that the vacuum in the bottle would be exhausted and he would have to get another vacuum. That is impracticable, as are many of the other suggestions. Dr. Savage objects to the heaviness of the instrument. That is not an objection, for the reason that you have got this tube to handle, which is an objection. I first tried to get the instrument with the vacuum in the handle, but found that to be impracticable; therefore it is necessary to have the tube, and that is an embarrassment to one who is accustomed to the ordinary operations, but the heaviness of the instrument helps the governableness or handling of this tube, and is therefore not an objection. The little valve is an advantage to help control the instrument, and is not objectionable. One must have a firm grip on it.

Dr. Savage's operation is much easier to do than the Smith, but not so easy as mine, though mine has its objections. It is not so easy as it looks. Every one who sees it thinks it is the simplest thing on earth, but it is not simple, and I do not think any cataract operation on earth ever will be simple. Dr. Bellows referred to dividing the conjunctival flap accidentally. I did it in my last operation. My control was not sufficient, so in place of stopping just short of severing this flap I cut all the way through. I put in the suture anyway and it did not seem to complicate the matter at all. There is no difficulty in putting in this suture in the way in which I have described it. There is an objection to putting it in first. The section in any operation, I believe, is extremely important and must be as perfectly made and as perfectly manipulated as possible; therefore, one does not want anything in the way of making the section. The sutures are not of great consequence. The important things are the section and the extraction, and it is here that we should give our entire attention. There is no connection between the suture and the vacuum method of extraction, as Dr. Jackson says; the only thing is that it is practicable to use the suture with this vacuum method and not so much so with the other methods. As to breaking the capsule, Dr. Greene thinks, evidently, that there is 25 pounds pressure on the lens; but there is not, for the reason that as soon as the vacuum is turned on one has the entire surface of the capsule sucked up in the cup, and everywhere there is a large surface to which this cup is adhering. The edge of this cup must be smooth and not sharp or angular. The instrument exhibited here by Hardy, which you may have seen, has a sharp edge, and one could not possibly use that. There is the large surface in contact with the cup, and if the capsule will stand the pressure, as Dr. Greene forces it out in the Smith method and it does not rupture, how much less pressure there is when you put this vacuum down on it and take hold of it over a large surface and simply pull it out. There is so much less pressure necessary, so that by this method there is much less strain on the capsule. I knew nothing whatever about Dr. Callan or Dr. Stevenson having devised any cup or any other method of extracting these cataracts. There may be a hundred more, but no one has yet put it on record, and I believe that no one else has found it successful. I feel that the method which I have devised and put on record is entitled to consideration, and not those which have only been thought of. I do not know how long ago I thought of it. I wrote to Dr. Callan, and in his reply he said nothing whatever to lead me to believe that he used it in extracting cataract in capsule. He had used it, as he said, for suction. Now suction and vacuum are different. We get no suction in this vacuum method; this is extraction pure and simple; but when one takes out soft lens matter one does it by suction. I am not trying to belittle any device Dr. Callan has made, but he evidently has not put it on record and does not have sufficient confidence in it to use it, and no one else, so far as I know.

Dr. May asked about dislocation of the lens. I have not had the courage to try this new procedure on the dislocated lens or anything that is at all complicated. The fact that I have used it only eight times shows that I am cautious. Eyes are of such great importance that we cannot take liberties with them; therefore, I have used it only in cases that are suitable. Subsequent features must be worked out by experience.

INTRAOCULAR NEOPLASMS

F. PARK LEWIS, M.D., BUFFALO, N. Y.

(Concluded from page 196)

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: I have seen a number of these cases. Two of the most interesting were in children in whom glioma appeared in both eyes. About ten years ago an unmistakable condition developed in the first eye and the parents of the patient submitted to the enucleation of the eye; and in a few months it developed in the other eye, and they objected for a few days to the removal of the other eye; but it was removed and the child is well. The other case is more recent. The patient died two weeks prior to this meeting. The condition developed in one eye and very properly the parents allowed enucleation to be done. That eye got perfectly well and there was no return on that side up to the death of the child. The trouble developed in the other eye and they would not consent to operation until the eye-ball had probably undergone degeneration posteriorly and the eye trouble began to show itself behind the ball in the tissues and the eye-ball was projected. Operation was done but it returned in a short time and then the orbit was eviscerated thoroughly. It returned again and before the little fellow died on the side that had been neglected there was a mass that made the parents wish ten thousand times that it had been removed as quickly as the first. These are the only double conditions of glioma coming under my observation, but I have had quite a number in a single eye, some of them not operated on at all, some operated on too late to do an operation, the trouble returning and the child dying, and only a very few were operated on sufficiently early to prevent a return in the side from which the eye had been removed.

Dr. William F. Mittendorf, New York: I have always been interested in the etiology of these growths. I have observed, of course, like all of us, a number of these cases, and yet in not a single instance was I able to trace a seeming history among the relatives. But I remember years ago the late Dr. Miller, of Providence, Rhode Island, reported a number of cases which occurred in his locality, and he expressed the opinion that in certain localities, especially in his neighborhood, these growths appeared to be more frequent than in others. Dr. Rogers is here from Providence; perhaps he has made a similar observation.

DR. EDWARD JACKSON, Denver: I can recall four cases. I may have seen one or two others. I think that perhaps men who are in the same position in practice as Dr. J. L. Thompson of Indianapolis or Dr. Savage of Nashville are liable to see what seems to be a large number of cases. These patients are likely to be taken from one doctor to another before the parents will consent to have the eye enucleated, so that these cases appear more frequently in the literature than their actual frequency would warrant, and for that reason the statistics may be misleading. I have never seen a double case, but I think I have seen four or five single ones. The last case I saw had been seen by some one before coming to me. The parents lived in Texas and were referred by the physician there to Dr. McDonalds to have the eye enucleated, and they were not quite ready to have it done. But he enucleated the eye and reported the case.

DR. ADOLF ALT, St. Louis: I have seen about eight cases in my practice regularly, but these cases came in the very early stage, so that I do not know of a single case in those I have operated on in which a relapse occurred. I have seen others in consultation such as Dr. Savage related. I had one case in which both eyes were affected. It was the second in the same family. The first was brought to me when it was so small I hesitated to make the diagnosis that it was a glioma. They consented at once to the enucleation of that eye, and the child, then about a year and a half old, is now a buxom young lady and comes now for a change of the glass fitted for the other eye. Eight or nine months after the first child was operated on they brought the second child, a younger sister, and I found the same condition in both eyes in that child. I proposed to the parents, of course, that to save the life of the child both eyes should be removed at once; but they decided that that was rather jumping in the face of Providence; they preferred to see the child die, which it did, and since, whenever they come to me, they complain about how sorry they were that they did not let me operate.

DR. HIRAM WOODS, Baltimore: I do not believe these cases, as Dr. Jackson says, are quite so frequent as the text-books would make us believe. I personally have had one double case, the child of a physician living in Maryland. Both eyes were enucleated and the diagnosis of glioma confirmed by Dr. Flexner, who was then living in Baltimore. The operations were done in 1898, thirteen years ago, and there has been no sign of a return. The child is a pretty, healthy young girl, now about 16 or 17. She was 3. She is studying to be a teacher in the blind school. She has an excellent voice and is a happy young creature. I have seen two or three or four others that I can recall. One or two points about the diagnosis should be considered. There is, as we all know, an inflammatory mass that presents itself in the vitreous at times. This is sometimes a sequel of a meningitis or other inflammatory or infective condition, and it gives rise to appearances of inflammation that are pretty characteristic; I mean by that, the exclusion of the pupil, the retraction of the edge of the iris; that is, the typical signs of chronic uveitis, which would serve us in the diagnosis. I saw one case last winter in which there was nothing of that kind at all. It was a child 4½ years old, who had the typical whitish reflex, the pupil widely dilated, no history of inflammation of any kind, and the white globular mass was absolutely characteristic of glioma. Enucleation was advised by three oculists. I was the fourth man consulted. I removed the eye, but examination by a competent pathologist was to the effect that there was no malignancy at all, and that it was a large, vitreous inflammatory mass. I would not know how to avoid the same mistake in diagnosis, though we have as a general rule in these pseudogliomas evidence of previous inflammation; but in this case there was none at all. The operation was done in the fall of 1901. The child is well.

DR. J. A. DONOVAN, Butte: I was a little surprised when I read the introductory line of Dr. Lewis's paper that these neoplasms are rare. I thought they were rather frequent. Four I can recall. One patient I know went east and I lost track of the case after I had advised enucleation. One, a child about 3 years old, from whom I removed the eye-ball, a few years later died of secondary complications. Another, a child of 3 or 4, recovered. I lost track of it for a time, but I learned afterward that it was well. Another was a girl of 15 when I operated three years ago. I saw her a couple of months ago.

DR. W. H. ROBERTS, Pasadena: Last fall in Moorfields I saw a child which had one eye enucleated for glioma and was then brought back for the enucleation of the other eye, which the parents had refused to have done.

DR. WILLIAM ZENTMAYER, Philadelphia: In regard to the differential diagnosis, I saw a patient at Wills Hospital six years of age. The only illness the child had had was measles some months before. The parents were unaware of the loss of sight, which was discovered in school. The child was brought to the hospital. He had a forward displacement of the lens. Behind it there was a mottled gray mass, lobulated—three lobules—with deep crevices, with several blood-vessels over it. The blood-pressure was slightly increased. There were no inflammatory symptoms. Transillumination was not entirely satisfactory. I took it to be one of the cases which Nettleship has put on record of detached retina following measles, following a subretinal hemorrhage. The eye would have been left if I had it to do again, but for my colleagues whose sentiment was against me, I did not then immediately remove it, but three or four months later the child had some little pain in the eye and I enucleated it. There was nothing but detached retina—no evidence of malignant growth whatever.

DR. CARL S. G. NAGEL, San Francisco: I should like to add that years ago in Utter's clinic in Breslau I remember a case of double glioma in which case Utter then made up his mind to do an enucleation, but the child died. Apart from that I can remember four or five single cases.

DR. THOMAS J. McCOY, Los Angeles: For statistical purposes I wish to report that we have only had three cases of glioma. I especially wish to report one case referred from Mississippi ten years ago. There was a growth in the right eye of this child a year old. The child was blind and the diagnosis of glioma was made and the eye enucleated. There was slight evidence in the other eye at that time of a growth in the fundus, but the parents and I thought we would watch the case. One year after that the parents presented themselves with the child with the growth projecting to the edge of the ciliary body. The eye-ball was probably twice the usual size, and I enucleated the second eye. We found no evidence of malignancy in the parents, and last year I received a communication from them that the child was still well and in good health at 11 years of age.

DR. ARCHIBALD L. MACLEISH, Los Angeles: I had the misfortune this past winter to handle a case of double glioma in a beautiful girl, the first child of wealthy parents, and I know of nothing more distressing in my practice than this case. I am bound to say that previous to the first enucleation a colleague thought he detected an adventitious growth in the other eye. I decided to examine that eye under anesthesia, but I was not able to satisfy myself of the presence of a growth. There was no external evidence of disturbance of the eye. The eye that was first removed was examined by Dr. Stanley Black of Los Angeles who pronounced it to be a typical case of glioma. Within six weeks after the operation when the healing in the first eye was nearly completed, the parents detected a whitish reflex in the other eye. I put the child under an anesthetic and satisfied myself that there was undoubtedly gliomatous tissue present, though farther forward in the lower segment of the globe. I had to tell them what was the matter, and they asked me of course whether there was anything that might be done other than enucleation. I had to say no. A few days later they told me they had decided to take the child to Lourdes, and as the case was so far forward on the globe I temporized with them on condition that in passing through Paris they should consult Dr. Galiszowsky, which they did. He confirmed the diagnosis and joined his consent to mine that they should try the virtues of Lourdes, and they are still there. We all know what the result will be, of course. There is one other distressing feature. There is no history of malignancy in the family. The mother is pregnant in the fifth month. Previous to the enucleation they toured the Pacific Coast trying to find some one to tell them the eye need not be removed. I knew nothing about it. I am glad to say they failed. But some officious oculist informed the mother that it would be very unwise for her to incur another pregnancy, as it would be a certainty that all succeeding children would be affected similarly. Well, you can imagine the distress of this mother. She is now seven months in pregnancy, her eldest child is doomed to double enucleation, and she is obsessed with the idea that the succeeding child will be similarly afflicted. It is the most distressing case that has come under my notice.

Dr. De Witt C. Bryant, Omaha: Dr. Lewis requests that we report as many of these cases as we have had. I have seen and taken care of six of these patients. Only one had both eyes affected. Of the six, two are alive that I know of; in one I do not know the result. Three are dead. Of the others, one whom I operated on some twelve years ago is still alive and perfectly well. The other was operated on only some seven years ago.

Dr. A. E. Bulson, Jr., Fort Wayne, Ind: I have some hesitancy in saying something on this subject, because it would seem that Indiana is a rather fertile field for the development of glioma. Attention has been called to the number of cases reported by Dr. J. L. Thompson of Indianapolis. I have seen one or two cases in consultation with Dr. Thompson, and, like Dr. Thompson, I have perhaps seen an unusual number of cases of glioma. I have not had the opportunity of looking over my records, but I am quite positive that I have seen not less than eight cases. A few years ago at Atlantic City among the specimens exhibited were two of mine, one from a case of double glioma; the other was a single glioma. I have had during the past year one case of double glioma in a child probably 3 years old. The patient was very thoroughly examined under a general anesthetic and the electric ophthalmoscope and studied carefully. Recommendation was made that both eyes be enucleated and the parents refused. The child was taken to a confrère who gave the same advice, and he enucleated both eyes, not, however, until the tumor mass had extended beyond the eye-ball, and death brought relief from suffering from extension to the meninges. I wish to report a rather interesting feature brought to my attention by the discussion of Dr. Macleish. The first case in which I did an enucleation, sixteen or eighteen years ago, was in a family in which I saw a second case of glioma. The child was brought to me three or four years after I had enucleated the eye for glioma and the child had died of extension to the meninges six or eight months later. This tumor I pronounced glioma after a careful examination. The patient drifted from my hands. The parents refused operation, inasmuch as they thought the operation on the other child had hastened its death. Within a few months there was an extension of the growth to the meninges and the child died without operation.

There is one point I want especially to emphasize, and that is the necessity of examining these cases of fretful, crying children under general anesthesia. I also wish to make a plea for examination with the electric ophthalmoscope under anesthesia. Another plea is for early operation, whenever the diagnosis is made. If we are to do anything for these children, it must be by early operation by enucleation. In the discussion of this topic at Atlantic City some one—my impression is that it was de Schweinitz—reported several cases in his practice and that of some of his confrères, in which the patient had lived a number of years following early enucleation. In the pathologic examination in all the cases I have seen the tumor mass has been found outside the eye-ball; that is, it has followed up the optic nerve, and while occasionally the entire vitreous chamber has been examined without finding any of the pathologic tissue, yet following up the optic nerve in several of them disclosed the tumor mass, and in such instances we are bound to lose the patients from extension to the meninges. In those cases in which the patient has lived it certainly has been due to early operation, before extension beyond the eye-ball itself. I only wish to corroborate what Dr. Thompson of Indianapolis has said concerning the number of cases which occur in our section of the country. I have seen a few which have gone to him. I wish also to approve what Dr. Jackson has said as to the unreliability of statistics in regard to these cases. Practically all of the patients will consult three or four men before they will permit enucleation, and when a patient goes from one ophthalmologist to another, and each man adds that to his records, it really interferes with the reliability of our statistics as to the number of cases we have.

Dr. John E. Weeks, New York: The diagnosis is not always easy. There is a condition known as pseudoglioma, that is, there are conditions in the interior of the eye which may readily confound us. In two cases I have seen there were conditions similar to those Dr. Zentmayer has described. The ordinary metastic chorioiditis is sometimes not very easily differentiated. In the cases I have seen I have not found the condition hereditary. I am very much interested in the statements of others and in the report in the paper. I listened to the Bowman lecture by Nettleship some time ago on heredity, and he made but this brief reference to heredity in glioma. In regard to frequency, I see quite a large number of cases of glioma of the retina, but they come from all parts of the country and the cases that remain under my treatment are relatively few. In the last year I have seen four cases and in the previous ten years I think they would number two or three a year. That does not indicate, however, very great frequency of glioma. In regard to the percentage of recurrence, it is rather high, I have seen two cases in the last three years. In both cases the condition was fully described to the parents and the treatment left to them largely whether something or nothing should be done. In both cases the parents decided that the child should die rather than grow up sightless and enucleation was not done in either case. Now this discussion has confined itself largely to glioma, but sarcoma has been mentioned in the paper. I want to mention a case of melanosarcoma of the chorioid, which, so far as I know in the cases coming under my observation, is the smallest for which an eye has been removed. The man was 24 years of age and some year and a half before had noticed symptoms of a central scotoma. He consulted a local oculist in Syracuse who said the patient had a mass in the background of the eye; the oculist could not determine what that mass was and said that he must have it under observation. After observation he decided that it was in all probability a sarcoma. The patient was put on the iodid of potash and mercury to saturation in order to determine a syphilitic element. The Wassermann test was not made. In October, 1910, the patient came to me. The mass consisted of a brownish area just slightly above the fovea centralis, but encroaching on it, with a central scotoma. The upper part was pale. It measured then about 1 mm. in the horizontal and 1.5 mm. in the vertical diameters and had an elevation of less than 0.5 mm. I had a Wassermann done and also used tuberculin for the purpose of differentiation, and repeated the antisyphilitic treatment thoroughly. I had the patient under observation for three months. I took repeated drawings and found that the growth advanced. When the growth in the horizontal diameter measured 1.5 mm. and in the vertical diameter 2 mm. and the elevation 0.5 mm. I removed the eye. This growth was only the width of the papilla in its short diameter and only a little longer in its long diameter. The microscopic examination confirmed the diagnosis. I know of no other case on record in which the sarcoma was so small.

Dr. Edgar S. Thompson, New York: In nearly seventeen years of more or less successful private practice I have never seen a single case of glioma. Fifteen years of that time I have been working in the Manhattan Eye, Ear and Throat Hospital, where we have 17,000 cases a year, and I have seen about six cases of glioma a year, so that I must have had an opportunity of examining at least forty specimens. I have not had an opportunity to follow them up. I am well aware that these cases slip out of one's hands readily, but my impressions are from my experience that the most important thing in the prevention of recurrence is far-back section of the optic nerve. Von Graefe advised that years ago. Parsons in his recent work states that the most common extension of glioma is to the chorioid, and that would lead one to believe that evisceration is important. In glioma extension to the chorioid is rare, whereas extension to the optic nerve is the most common thing. Cases from which specimens come to the laboratory in which the optic nerve is involved go out and in the course of six or seven months there is a recurrence, a cerebral hemorrhage or an attack of unconsciousness and the child dies. I have seen but one or two cases of extension into the orbit, and these are cases in which the growth had gone into the chorioid. In my own cases in the Manhattan, I think not more than six, I have always drawn the nerve forward as far as possible and then cut the optic nerve at the apex of the orbit. I think that is very important, and I think also that a certain number of cases might not show a recurrence if you can succeed in getting beyond that point. With regard to double gliomas, I have seen only one or two. I think they are apt to go around, because the patients will not submit to operation. In one case in which operation was done by Dr. Agnew, who died in 1888, the man is still living, with no recurrence. I think extension to the optic nerve is the greatest danger to life. Of course, metastasis comes in. Some years ago in connection with Dr. Wilson of Bridgeport I collected all the cases we could find of metastases. Wintersteiner had reported a great many. There were fifty-five in all. Almost all were very light, so that I do not believe metastases are likely to occur early.

Dr. F. Park Lewis, Buffalo: Among the various classical cases reported the first, by Dr. Thompson of Indianapolis, which is the most remarkable case of heredity I have seen anywhere, seems to have been overlooked. A little girl was brought to his office in 1903 with a glioma of the right eye. The mother writes the description as follows:

"The first child affected with cancer was a boy born in 1869: no medical attendant; died in 1871; the second child was born in 1872; the disease was noticed in 1873; the eye was removed in September, 1873; cancer came in the other eye eleven months later and the child died in 1875. The third child died in 1882. The fourth child was born in 1883. The disease was noticed in February, 1885. It died in March, 1887. The fifth child was born in September, 1888. The disease was noticed in 1890. It died July 5, 1891. I am 55 years old, the mother of fourteen children, seven boys and seven girls. I have lost no children but from cancer."

Heredity was pronounced in this case on the husband's side. It is a remarkable history, which has been overlooked. It was published in *Knapp's Archives* in 1894.

The discussion has brought out the fact that, notwithstanding the number of cases in each individual practice, the aggregate number is small. The diagnosis, except in the cases of pseudoglioma, to which reference has been made, in the ordinary case is a very simple matter, and yet in the hands of the general practitioner the rarity of the disease would incline him to make a diagnosis of cataract and wait, therefore the importance of having more generally understood the fact that when recognition is early and enucleation is prompt it will in a considerable proportion of cases save the life of the child.

THE IMMEDIATE REMOVAL OF TRAUMATIC CATARACT

J. A. DONOVAN, M.D.
BUTTE, MONT.

(*Concluded from page 197*)

ABSTRACT OF DISCUSSION

Dr. Edward Jackson, Denver: There is only one point on which I would be inclined to modify Dr. Donovan's teaching. From my experience I would be inclined not to make the exception of waiting for an inflamed eye, or not make that a very general exception. I think I was induced to try it first by a patient living at a distance and felt under the necessity of going home. But since that I have done it several times intentionally when there was not any such reason, simply because of the good result in the first case, and that is in an eye that shows a good deal of general reaction and is pretty severely inflamed a few days after such injury, entirely apart from any foreign bodies, when it is simply a perforating injury with disturbance of the lens. In such an instance I think it is better to go in and extract the lens. The eye is quieted down immediately after the operation to such a striking degree that it shows that the presence of the lens was complicating the healing very seriously. I have sometimes done that after the inflammation had gone on two or three weeks, with very slow improvement, and I have seen the eye clear up within two or three days after the additional traumatism of making the new incision and taking out the lens. I think if I would have any criticism of what Dr. Donovan says it would be in the direction of advising early removal of at least the great mass of the injured lens.

Dr. Oscar Dodd, Chicago: I would like to emphasize what Dr. Jackson has just said in regard to the removal of these swollen lenses, even though the eyes are severely inflamed. A short time ago I had occasion to take charge of a patient who had been treated for several weeks and in whose case the removal of the eye had been advised, the eye being severely inflamed and there being some irritation in the other eye. As I took it, the swelling of the lens was the cause of the trouble. I treated the patient for a time trying to relieve the inflammation, but could not, and finally extracted the lens and washed it out, and within three days the eye quieted down and he has had no symptoms of irritation since. As to the removal of the lens immediately after the injury, I think we are all prone to wait until the lens swells, but I believe that as Dr. Donovan has said, it is the proper time to remove them as soon as we can see them and get the lens out, because the subsequent inflammation and danger comes from the swollen lens to a greater degree than from anything else. I think that if we would follow that principle we would get results frequently in instances in which we have to enucleate the eye when the lens is left on account of the severe iridocyclitis brought about by it.

Dr. W. R. Johnson, Spokane: Dr. Donovan and myself practice nearly enough together to know what these injuries are, and see them under conditions that probably few men do. Some years ago we were led to this early removal of cataract from necessity in cases in which we saw rapid swelling, and on removal we found that the cases did better; but not that alone, for we found that in cases in which the foreign body was in the eye, with traumatic cataract, though the inflammation subsided the eye had to be removed later. The eyes were lost from secondary glaucoma, and we believe that the swelling of the lens with the great amount of traumatism and the blood that is often found in these eyes were responsible for it, and the increased tension was the cause of the loss of the eyes, and early removal of the lens gave us better results. It is my practice now to do that. Dr. Donovan has shown some pictures here, and I only wish he had shown you the one of the "muckers." We find that the majority of our cases from blasts occur among the "muckers." A small piece of dynamite that has not exploded remains and the man strikes it with his pick and the blast flies up in his face. Most men injured in dynamite explosions require the undertaker, but with these small pieces of dynamite it is the man who is stooping or picking and the blast comes up directly in his face. Both eyes are probably injured and one eye is probably destroyed so that enucleation is necessary, and he has a traumatic cataract in the other eye, and the proposition is to give that man sufficient vision to enable him to earn a livelihood. It will be seen from the sections shown that these eyes are in the majority of instances glaucomatous, and it is the early stage, the time of tension, that brings the destruction of vision. Another point is that the force of the explosion is so great, there is such a great disturbance of the lens, that we have this rapid swelling. No man in doing a needling operation would have the same amount of disturbance of the lens that we have in all cases, but has sometimes found that twenty-four hours later he has had to do an extraction. And that is the condition we have. I think there probably are conditions the other men mentioned in which early removal is not necessary, but with us it becomes an absolute necessity.

Dr. John E. Weeks, New York: I think that the expression of Bowman in regard to ordinary injury to the lens, as quoted by Dr. Donovan, sums up the question very clearly, that every case must be judged on its own merits. When we produce a traumatic cataract as we do in needling for high myopia, or in needling for congenital cataract, we have a condition which resembles to some extent the traumatic cataract produced by injury from other causes. It is not a fact that vision will be lost quickly by an increase in tension and secondary glaucoma; that is, there is ample time for the surgeon to observe the condition and to perform his operation before damage of any consequence is done to the eye. I have found in my practice that if an increase in tension exists for from twenty-four to seventy-two hours the vision is not impaired, in the majority of cases, at least. It is my practice after I have produced traumatic cataract to remove the lens in twenty-four or forty-eight hours after increase in tension occurs. Now it is also found that if we permit the lens substance to swell and become opaque its removal is more easily accomplished than if we attempt to remove the clear lens substance. The adhesion to the capsule is not so great and we can wash it out more easily. Consequently it has seemed to me that in all cases in which it can be done with safety to the patient it is better to wait until the lens substance is somewhat opaque. It would seem to me the principle of removing the lens as soon after it has become injured as possible is rather a wrong principle to act on, but each case, as I said before, should be treated on its own merits. Increased tension that has existed for any length of time is of course dangerous to the eye.

Dr. W. E. Lambert, New York: My experience is much the same as that of Dr. Weeks. I have done quite a number of cataracts with high myopia. The indication for the removal of the lens in these cases has been dependent on the effect of the needling and the time after the traumatism has varied very much; but I think, as Dr. Weeks says, we cannot advise the immediate removal of traumatic cataract, but it must be removed when the condition of the lens makes it most favorable for extraction, by any method, washing out, etc. I remember a case of injury in which a man was playing racquets. His glasses were broken and a large piece of glass had penetrated the eye. The late Dr. Bull and also Dr. Weeks saw the patient. I saw the patient within a few hours and detected a large piece of glass in the lens. The next day the lens began to be opaque, but the formation of the cataract was slow. The eye remained pretty quiet and by the advice of Dr. Bull we decided to wait a few days. Within two days, I think, after the accident the lens had swollen sufficiently to justify an attempt to extract the foreign body and wash out the lens. He advised very strongly against it and we waited. Six days after this symptoms of glaucoma set in rather severely, and I insisted that something be done or that somebody else take charge of the case. Quite an acute attack of glaucoma supervened. The extraction was done, the lens washed out and the man made an uninterrupted recovery and has to-day 20/15 vision in that eye. It is not always necessary to operate at once. I have had similar experiences with various cases of high myopia that I have operated on, so that I think every case is to be treated according to the indications as they arise.

Dr. Edgar S. Thompson, New York: It seems to me there are two very distinct points to be made in connection with Dr. Donovan's paper. The first is whether we get the case before the wound has healed up. By the time the inflammatory reaction has set in and the original wound of entrance has healed, the question is of course a different one. Any operation then will give a greater disproportionate reaction than in the preinflammatory period. If the inflammatory period has set in, then we will get a greater reaction. Whether removal is done in the first period or not depends on whether sufficient disturbance of the lens has occurred to cause swelling. If that has not occurred I think it is better policy to wait and not to subject the eye to the shock of the removal of the lens, because it undoubtedly, *per se*, causes a good deal of traumatic disturbance. With regard to the effect of increased tension, I agree with Dr. Weeks that increased tension is a very different matter from the increased *tension in the* glaucomatous eye and is not so serious. I think if we study the tonometer work for equal measurements there will not be the same reduction of sight in traumatic cases as in an equal time in glaucomatous cases. With regard to Dr. Donovan's cases, I take it that he sees them early and the lens is hashed up, and in such conditions I would agree that we should immediately remove the cataract.

Dr. J. A. Donovan, Butte: The danger in any change from a well-established method of treatment is of course that we become too radical on the other side. I favor getting most of these lenses out as soon as we can do so, but there are a great many of them that it is not good policy to treat in this way at once. In some of these injuries one feels certain that there is going to be cataract, and it may not develop. One reason I give is that after the second day the swelling is so intense that nothing can be done. On the other hand if there is any strong probability that the lens will not have to be removed I consider it best to wait. The general principle is that as soon as I am convinced that the lens should be removed, I remove it at the earliest possible moment, if I feel it can be done with the greatest safety to the patient.

DISTORTIONS OF THE VISUAL FIELDS IN CASES OF BRAIN TUMOR

HARVEY CUSHING, M.D., AND GEORGE J. HEUER, M.D., BALTIMORE

(Concluded from page 208)

ABSTRACT OF DISCUSSION

Dr. Sherman Voorhees, Elmira, N. Y.: In two cases recently under my care in which decompression operations were done this interlacing and inversion of the color-field is present.

Dr. Hiram Woods, Baltimore: In reviewing these cases I find that there have been in most of them, in addition to the color-interlacing, certain symptoms that would at once lead the ophthalmologist to expect something else besides an ocular lesion. For instance, there have been one or two cases of Jacksonian epilepsy in this report, and various functional symptoms in various parts of the body, and these things themselves, in association with any field-abnormality at all will lead the ophthalmologist to consult the neurologist. On the other hand there are cases in which we see color interlacing with optic neuritis, without any other symptoms. Now the orthodox interpretation of that has been hysteria, as we know. In the case of one patient whom I believe Dr. Cushing subsequently operated on, I saw that interlacing of the color-fields without any other symptoms at all, without any optic neuritis, and made the diagnosis of hysteria from the absence of any other nerve symptoms at all. Now a very practical question for us ophthalmologists to know about is this: When we get hold of cases with this interlacing of the color-fields alone, without any other symptoms on the part of the nervous system, how are we to interpret it?

Dr. Walter S. Franklin, San Francisco: Dr. Cushing said the fields seemed to vary with different observers, and I feel that here we have a chance to make an improvement in our methods. The personal equation enters largely into the taking of the color-field. Different men get a difference of 5 to 10 degrees with the same patient, and each feels that his results are correct. Are there any particular details of taking the color-field, difference in style of perimeter, whether self-recording or not, or are there any details that Dr. Cushing can give us so that we can standardize our methods of taking correct perimetric measurements?

Dr. John E. Weeks, New York: Has this interlacing of the fields been noticed in conditions other than tumor, as, for instance, abscess of the brain; is it also characterized by interlacing of the fields? Is any color but blue affected? Is the red field found interlacing at all with the green, or does it affect simply the blue field in relation to the red?

Dr. Lewis S. Thorpe, Los Angeles: How long does this interlacing of the fields persist? Is this symptom constant throughout the course of the development of the tumor, or does it become lost in the later stages? We have had a very interesting case of cerebellar tumor here in this city the past winter. I made the diagnosis, but at the time I made it I was not satisfied that I had true interlacing of the fields.

The color-fields overlapped I believe, at only two points, but the case was very well developed at the time. The patient has been operated on since with very brilliant results. The patient was referred to Dr. Lobengier, one of our local surgeons. At the first operation he did not succeed in removing the cyst wall, but did so at the second operation. The two symptoms that brought this patient to me were headache and vomiting. The young man had had an appendectomy, and a great many measures had been taken to relieve the headaches. He had been East. At the time he consulted me the papillitis was so very well marked that the diagnosis was easily made. This patient was also seen by Dr. Orbison of this city who might add something to the discussion. But I am anxious to know about the interlacing of the fields because at the stage at which I got this young man I was not satisfied that there was a true interlacing, though the fields were taken a great many times.

Dr. Harvey Cushing, Baltimore: I doubt not that we would have recorded this case that Dr. Thorpe speaks of as one of interlacing with one or two points. I would like to know how many points were taken. The showing of some turning in of the blue field at the periphery in a patient with cerebellar tumor will be as much as we can expect. We cannot subject these patients to very long detailed observation. Here the diagnosis is so definite that it is hardly necessary to lay much stress on this condition which we hope may be of some use in the early stages when the papillitis, if we want to call it that, may be present.

Dr. Woods' questions are a little difficult to answer. There are of course many functional disturbances, possibly sensory disturbances, that we do not recognize as anything else but functional, in people who may possibly have organic lesions. There are sensory disturbances as brought out by the two-point tests which have an organic basis. These people with Jacksonian epilepsy have been patients in whom the lesion has been certified, and they were people in whom one would have expected a sufficiently high grade of tension to have caused an extensive choked disk. One of these patients—and this will answer again Dr. Thorpe's question—had had interlacing, observed over a period of a year, and the neurologists who had seen this patient, and many of us, were very much concerned about his condition. We did not believe it was possible that he was harboring a tumor. He had had Jacksonian epilepsy, he never had any headache or gastric disturbances of any sort; in fact, no pressure symptoms such as we usually consider, or in the past have considered, essential to a diagnosis of tumor. His focal attacks persisted and became so frequent that it seemed best to make an exploratory operation, and this disclosed, as I reported in this series of cases, the largest one of the benign tumors that has occurred in this series of 250 cases (we have only spoken of 200 from the standpoint of the eye-ground). It weighed 198 gm.—almost as large as the fist. Here was an individual who had gone a year with but little contraction of the color-field with this definite interlacing, and at many points. We may perhaps tend to call conditions interlacing of the fields which are not strictly so; possibly, endeavoring to make the matter register, we may have gone a little further than we were justified in doing. The condition varies at different times. Fatigue may have something to do with this. The same person taking the field in the same individual, perhaps a few hours later or the next day, may register a different field. But it shows this tendency, as a patient with indications of bitemporal hemianopsia may differ from day to day; the field assumes a somewhat different configuration, and it shows that one must generalize rather than particularize about these conditions. I do not know how to interpret interlacing. We are rather inclined to interpret it as a manifestation of pressure. It disappears, usually, before the choked disk has disappeared. I presume the persistence of the choked disk means that conditions have arisen secondary to the long-standing tension; conditions that have set up a reaction in the nerve, with round-cell infiltration, with new tissue formation, which leads to the persistence of the stasis and prevents the swelling of the nerve-head from subsiding rapidly. But there are people without very much change in the nerve-head in whom the fields widen out and assume normal color relations without any very evident subsidence at all in the choked disk.

In answer to Dr. Franklin's question, I, too, wish there could be a standardization of these matters. I have, perhaps, in what I have said, made some answer to the question. We use also a 0.5 disk with pure colors, and some of the fields with low vision must be plotted with 1 cm. or larger disks.

There are other conditions, Dr. Weeks, that cause this—abscess, serous meningitis, etc. In not all of the 200 cases has the tumor been certified, many, perhaps, not certifying until six months or a year after decompression, when after a number of months the tumor has given evidence by producing neighborhood symptoms. Blue is the widest field, and possibly for that reason may be the field the restrictions of which are most seen. It does affect the other colors; sometimes the red is within the green, and the blue and red interlacing with the green field, but we have felt that we could get as much out of the blue and red periphery as if we took an extra periphery, and hesitating to give the patient a longer ordeal than necessary we have disregarded the green field.

I do not know how long the interlacing persists. As I have said in the paper, here is one that has persisted for a year, and the interlacing and the epilepsy were the only symptoms that the patient had, and shortly after the operation they had disappeared. This cerebellar case I presume we would have regarded as one showing interlacing.

Therapeutics

HEAT PROSTRATION AND SUNSTROKE

It is customary to divide the cases of illness due to excessive exposure to high temperature into two classes: one is distinguished as heat exhaustion; the other as sunstroke, or thermic or heat fever. It is important to recognize the distinction between these two classes of cases, as their treatment is entirely different and distinct.

Heat exhaustion is considered by many as a milder affection, although it frequently results in death. It may occur in those who are not exposed to the direct rays of the sun, but who are engaged in occupations which are accompanied by unusual heat, such as bakers, laundrymen, and foundrymen. It is associated with vasomotor paralysis. The beginning symptoms usually are dizziness, slight headache and throbbing in the head, nausea, and sometimes diarrhea; these symptoms increasing, the patient becomes cold, the skin becomes pale and clammy, great prostration ensues, the patient is restless, and may become unconscious. The temperature is usually subnormal, and is never elevated. The pulse is weak.

The treatment of this condition embraces removal of the patient from the influence of the excessive heat to which he has been subjected. If he has been out of doors in the sun, he should be immediately removed to the shade, and as quickly as practicable be taken into a house or to a hospital. He should be placed in bed in a room which is cool and well ventilated. The clothing should be loosened so as not to interfere with respiration or circulation, and his working clothes should be removed, and hot applications, such as hot water bottles or hot bricks, should be placed around his extremities so as to restore the circulation and make him warm. If he is unconscious so that he cannot swallow, inhalations of ammonia should be given by the nostrils. Cold applications, either cold cloths or an ice-bag, should be made to the head; a mustard paste should be applied to the back of the neck and over the spine; and if the respiration is obviously impaired, a hypodermatic injection of 1/100 of a grain of sulphate of atropin should be administered. If the heart is weak, a hypodermatic injection of 1/30 of a grain of strychnin sulphate should be given. As soon as the patient is able to swallow, he should be given half an ounce or an ounce of whisky, unless he was already under the influence of this drug before the attack came on. If the circulation is improved, the body becomes warm, and the patient regains consciousness.

A stimulating enema may be administered to move the bowels. The condition of the bladder should be investigated, and if the secretion of urine is scanty, the patient should be given copious draughts of water, and a little later an attempt should be made to give him nourishment, preferably in liquid form, and preferably hot, or at least warm.

In the second class of cases which are termed sunstroke or heat fever, the patient will be found in an entirely different condition. Usually on the arrival of the physician the patient will be found to be exceedingly hot, with a dry skin, a congested face, with veins swollen and arteries throbbing. The patient's temperature will usually be found elevated to from 105 to 110°, or even higher. There is great restlessness; the breathing may be stertorous; the pulse is full and rapid; the pupils, dilated at first, may become contracted, and unconsciousness may rapidly supervene. These symptoms may have come on without very much premonitory warning. They require prompt and active treatment.

As in cases of heat exhaustion, if the patient is in the sun, he must at once he removed to the shade, and as soon as practicable to a cool and well-ventilated room. His clothing having been removed, and his temperature having been taken, he should, if practicable, be at once placed in a tub of water at a temperature of 80 F., to which ice should be gradually added. At the same time, ice should be applied to the head. While the patient is in the ice-bath, he should be rubbed vigorously to promote the peripheral circulation and bring the hot blood to the surface of the body where it may be cooled. The temperature should be taken in the rectum every fifteen minutes, and as soon as it has fallen to 102 the patient should be removed from the bath; otherwise the temperature may continue to fall until it becomes subnormal, and the patient may pass into a condition of collapse. Ordinarily this bath should not be continued longer than from twenty to forty minutes, but it may be repeated after an interval of two, three or four hours if the temperature should again become elevated. In some of these cases in which it is obvious that a congestion of the internal viscera is embarrassing the action of the heart, venesection may be performed, and a pint of blood may be removed. This loss of liquid from the circulation may subsequently be restored by the injection of physiologic saline solution, if it is deemed advisable.

If there seems to be a tendency to edema and congestion of the lungs, a hypodermatic injection of 1/100 of a grain of atropin sulphate should be administered.

If, after the temperature has commenced to fall, the pulse becomes weak, half an ounce or an ounce of whisky should be administered by the mouth, if the patient is able to swallow, unless he has been under the influence of it at the time of the attack. In that case, a hypodermatic injection of 1/30 of a grain of strychnin sulphate may be administered.

If the elevation of the temperature is not so great, or if the use of the bath is impracticable, the patient may be laid on a cot, over which a rubber blanket has been placed, and a sheet wrung out of cold water may be wrapped about him. He may then be rubbed with ice. After the sheet has become warm it may be removed and another one which has been allowed to soak in cold water may be substituted for the first.

In some cases it may seem wise to administer an antipyretic drug. Acetphenetidinum may be used, but its action should be carefully watched. In most cases the cold bathing is far preferable to the use of any antipyretic drug.

Even if the patient apparently rapidly recovers, he should be kept quiet in bed until his temperature and pulse have been normal for forty-eight hours. He should be given light nourishment at first in liquid form, and at first preferably hot.

Persons who have been the victims either of heat exhaustion or of heat fever often suffer more or less from the effects of heat during the remainder of their lives. It is always wise to warn patients or their friends of this possibility, and to direct them to avoid, as far as possible, exposure to the direct rays of the sun or to overheated rooms during the summer. They should be advised to practice cold bathing, and, if possible, sea bathing during the summer months. Sometimes the administration of tonics, and especially quinin sulphate combined with strychnin sulphate or extract of nux vomica, has seemed to aid these persons in withstanding the effect of the summer heat. Persons who seem to be predisposed to be affected by the heat should avoid exposing themselves as much as possible. They should dress lightly, should drink plenty of water, should avoid indulgence in alcoholic drinks, should keep their heads as cool as possible; and some recommend that the back should be protected by sewing an extra piece of flannel into the inside of the shirt so that it may protect the spinal cord. These precautions may wisely be observed by everyone in hot weather, and especially when an excess of humidity in the atmosphere diminishes the perspiration of those who are working, or are exposed to very hot air.

Some patients who have suffered severe sunstroke find that their memory is greatly impaired afterward, and that they never have the same mental ability and memory. Little can be done to benefit this condition, but if one feels that he should give the patient something in the hope that it may do some good, probably nothing will be more likely to prove beneficial than the glycerophosphate of calcium or some form of phosphorus.

Not infrequently infants and young children suffer from the effects of extreme heat. This condition should be looked for in children who are suddenly taken ill in the hot weather without any apparent reason. If they are found suffering from a high temperature for which no other explanation can be found, and if the history of the case shows that they have been exposed to high temperature, they should be placed under favorable conditions in a cool, airy room, and given a sponge bath of cool water, and cold drinks should be administered. If the heart becomes weak, small doses of whisky, well diluted, may be administered.

Sometimes after exposure to excessive heat there is twitching of the muscles, and even severe convulsions. When the convulsions occur and continue they may be controlled by a hypodermatic injection of ¼ grain of morphin with 1/150 grain of atropin. If they resist this treatment, the patient may be anesthetized by the administration of chloroform, or a rectal enema containing 2 gm. (30 grains) of bromid of sodium and 1 gm. (15 grains) of hydrated chloral may be adminstered and repeated, if necessary, after one hour.

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[For other information see second page following reading matter]

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THE PECTINEUS MUSCLE IN GREEK SCULPTURE

It is well known that the Greek sculptor's knowledge of anatomy was not based on scientific dissection, but on the daily observation of hundreds of nude athletes exercising in the palæstra—a vast advantage over the ways of the modern artist who depends on his model or his teacher of anatomy for his knowledge, and never sees the nude figure in action, but only in repose.

Those who heard or read Sir Clifford Allbutt's interesting address on "The Historical Relations of Medicine and Surgery" at the St. Louis Exposition in 1904 may remember that he emphasized a certain muscle in the groin, originally noted by the distinguished archeologist, Professor Charles Waldstein, which was known to the sculptors of the Periclean age, but has escaped the attention of modern students of artistic anatomy because it is not superficially visible in the normal subject to-day. This muscle, highly developed in the stress of Greek athletics, is, in effect, either the pectineus or the iliopsoas, which lie on the floor of Scarpa's triangle. Professor Waldstein describes a torso from the metopes in the friezes of the excavated Heræum near Argos (one of the great sanctuaries of ancient Hellas), which exhibits this peculiarity in a remarkable manner.[2] The figure represents a nude warrior-youth "in the supreme moment of contest," throwing all the weight of his body against an Amazonian adversary, of whom nothing remains but a short, dainty, dimpled, unmistakably feminine hand, pressed against his side. This torso, which Professor Waldstein regards as one of the finest examples of modeling from the nude which the Greek sculptors have left us, has a curious round protrusion in the groin, like a bubo or incipient hernia, which anatomists have not been able to explain except as the result of strain or pathologic enlargement of the glands. Dissections made by the archeologist's brother, Dr. Louis Waldstein of London, show that the nodule is not connected with the muscles bounding Scarpa's triangle (clearly defined in the torso), but must be the forcibly contracted pectineus, which extends from the outer ridge of the pubic bone to its insertion directly under the lesser trochanter of the femur. While the pectineus is hardly noticeable in the average living subject, lying normally hidden at the bottom of Scarpa's triangle, experiments made by Dr. Waldstein on two of the most powerfully developed professional athletes in London demonstrated clearly that the nodule in question was a muscular formation, not seen in repose, but thrown into striking relief when the subject assumed the exact attitude of the torso, throwing all his body-weight on his bent left leg, with the right upraised, and with the superadded strain of pushing against an adversary with all the weight of his trunk.

This feature of the torso, far from being an abnormality, therefore, only goes to show the wonderfully close notation of visible, palpable, external anatomy on the part of sculptors of the age of Polycletus. Besides the pectineus, there is a marked and almost conventional line running along the groin from the ilium to the pubis to be found in all ancient statues of athletic prize-men, but not regarded as true to nature now-a-days. Concerning this line Professor Waldstein writes: "It is true that it is not a frequent occurrence in so marked a form among men in our day; but I have found numerous instances as clearly defined as in any Greek statue. I attribute its atrophy in our day to the wearing of clothes, especially trousers and braces, which have transferred the weight-carrying exercise of the torso to the shoulders and have thus relieved the abdominal region and its muscles from their function and caused these muscles to atrophy."

THE GERMICIDAL PROPERTIES OF DISINFECTANTS

Formerly, it was almost an article of faith that disinfection of rooms and houses which had been occupied by a person suffering from an infectious disease, and of the clothing with which he had been covered, or of anything in proximity to which he had been placed, should be undertaken as an ordinary preventive measure. This was regarded as more or less a safeguard against the spread of disease. Although, perhaps, the belief in terminal disinfection has wavered to some extent recently, the great majority of the medical profession here and in Europe still strongly recommends disinfection after the occurrence of a communicable disease.

Whatever one's views may be as to the efficacy of disinfection in preventing the spread of disease, all will agree that if disinfectants are employed as such, they should be possessed of effective germicidal properties. It is concerning the efficacy of what is known as terminal disinfection that some health authorities profess themselves doubtful, and it is for this kind of disinfection that commercial disinfectants are largely used.

To obtain satisfactory disinfection it is necessary to use a disinfectant which is not only a deodorizer or antiseptic, or both, but a germicide. As a matter of fact, the deodorizing and antiseptic properties of a disinfectant in the presence of disease germs are of little moment. The real need is for a disinfectant which will destroy the

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[1] London, 1905, p. 7.

[2] Waldstein, Charles: The Argive Heræum, Boston and New York, 1902, i, 186. See in particular the beautiful photograph of the torso on Plate xxxiv.

specific organisms of disease. If it does not do this, its employment is worse than useless.

Little is definitely known as to the germ-destroying properties of the commercial disinfectants used in this country. They are generally purchased on faith, with no guarantee that they are what the makers claim. In Europe there is some guarantee that the disinfectants on the market are genuine and efficient germicides. There are means for protecting those who purchase disinfectants, from employing an article which may be a deodorant or an antiseptic, but which does not possess the requisite germicidal properties. There are several methods in use with this object in view, none truly ideal, but some of which act at least as a partial protection to the public against misrepresentation. Of all these methods, the one mainly employed and officially recognized in Great Britain and in some other parts of Europe is that termed the "drop method." This method was devised a few years ago by Dr. Rideal and Mr. Walker and its principle and technic are simple. Various strengths of the disinfectant to be tested are made up with distilled water and their germicidal action is compared on the typhoid bacillus, the standard organism usually employed, with a solution of phenol of a certain strength, say 1 in 100. Then by continued experiments a strength of the disinfectant will be found which will be identical in its germicidal properties with the aforementioned solution of phenol. In short, this disinfectant will destroy typhoid bacilli under similar conditions in exactly the same time as the phenol solution. Therefore, this solution of the disinfectant divided by the phenol solution is termed the coefficient of the latter.

The Rideal-Walker method is by no means perfect, and has been subjected to much adverse criticism. The principal objection urged against it is that a coefficient obtained by experiment in distilled water may convey a misleading impression as to the potency of the disinfectant when mixed with organic masses as pus or fecal matter.

Aside from this objection the method permits considerable latitude in determining the coefficient so that according to the bias of the operator a difference of 33 per cent. may result. Various methods have been introduced to overcome these defects and the *Lancet* method, so-called because adopted by a commission appointed by the London *Lancet*, appears to be a decided improvement. It is, however, not free from faults. J. F. Anderson and J. B. McClintic[1] working in the Hygienic Laboratory of the Public Health and Marine-Hospital Service have presented a method which insures great uniformity in technic and gives more satisfactory results than those previously obtained by either the Rideal-Walker or the *Lancet* method. They have combined the best features of both methods.

Perhaps no liquid disinfectant has been produced as yet which will thoroughly disinfect solid masses of organic matter, such as feces; but these masses can be rendered harmless by other methods, notably by heat. It is bedside and after-disinfection which is here discussed. This possesses a wide field, for it must be borne in mind that an efficient liquid disinfectant is able to destroy not only naked bacteria, but even, it is said, disease germs surrounded by small quantities of fat.

Under different conditions the employment of different disinfectants is indicated, but each and all must possess the necessary germicidal properties. There should be some means, therefore, of ascertaining the germ-destroying capabilities of commercial disinfectants. At the present time, there are no such means available in the United States. According to health authorities of Europe and Great Britain, the great good that the introduction of the Rideal-Walker method has effected is that it has raised the standard of disinfectants and has acted as a check on those manufacturers who were foisting, or who were willing to foist, an unreliable article on an ignorant and confiding public. It is the case over again of proprietary medicines and foods in this country.

The time appears to be ripe for the adoption of some standard for the valuation of germicides and their distinction from antiseptics. Considerable work along these lines has been done. It merely lacks united action to carry the matter into effect. We have in the Council on Pharmacy and Chemistry a body which would seem eminently qualified to undertake the work. It is composed of scientists whose reputations are beyond reproach, and who are sufficiently fearless not to be daunted by the attacks of the proprietary concerns whose products might be affected. If the Council would undertake this work and seek the cooperation of the health authorities of the various states, of the United States Public Health and Marine-Hospital Service, and of others interested, a suitable method of standardization could be selected so that antiseptics and disinfectants could be judged and sold on the basis of their real value.

Current Comment

PASTEUR

"A Study in Greatness" is the sub-title of a brief sketch of the career of Pasteur, by Prof. F. W. Martin.[1] In the spirit of Carlyle, Martin shows the origin of the racial concept of greatness, and having discovered a fundamental similarity in the works ranked as great, he offers as a hypothesis this interpretation: They all relate to the heroic. He gives an exceedingly interesting outline of Pasteur's life, pointing to the tenacious purpose of the great Frenchman's genius, showing how the results obtained by minute microscopic investigations were conceived by this master-mind as macrocosmic laws. Of the discovery of racemic acid, Martin says that, measured by its ultimate results, it was doubtless the most far-reaching discovery ever made, being in one direction the germ of a new science, stereochemistry; in another, transforming medicine and agriculture from empirically practiced arts into true sciences. This discovery, made at the age of twenty-five, was the first great manifestation of Pasteur's "marvelous capacity for seeing the unseeable." Holding to the "sure road of experimentation," he broke roads into a new world, and created on his way new sciences which should serve in its exploration. Making discovery after discovery unparalleled in universal importance, his genius compares with other milestones in our civilization—Newton, Copernicus, Galileo—as a solar system compares with an isolated star. In 1868, in the midst of many and great investigations, Pasteur was struck by a series of paralytic shocks, but, says Martin, although crippled in body, the work accomplished by Pasteur during his remaining twenty-seven years was not only stupendous in amount, but of transcendent importance to mankind. The example afforded by the heroic labors of the paralyzed Pasteur cannot be matched from the annals of all time. Our conceptions of greatness need constant revision, the term being so often applied to comparatively insignificant incidents in every-day life that it loses its meaning. The article cited is an aid in such revision.

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[1] Jour. Infect. Dis., January, 1911, viii, No. 1.

[1] Popular Science Monthly, July, 1911.

A MICROSCOPE FOR TWO

A new device which will appeal to all users of microscopes is the arrangement of two separate oculars with one common objective, allowing two persons side by side to look at the same field, so that an instructor may describe to a pupil what should be observed by the latter while both are looking at it, so also that an artist can make a drawing under the direction of the microscopist, etc. Appreciation of its value will doubtless be expressed by all users and the question will be asked, why it was not invented before. Thus far we have heard only of the instrument's being exhibited in France, but in due time it will probably be introduced into this country.

INCOMPATIBILITY BETWEEN INTERNAL AND EXTERNAL APPLICATIONS

That certain drugs administered internally may cause a dermatitis in susceptible persons is well known. Quinin and bromids are examples. Another fact, perhaps not so well known, is that a dermatitis may also be set up if certain drugs are taken internally at the same time that certain other drugs are applied externally. Miro[1] refers to an instance in which hydrogen dioxid was applied externally while potassium iodid was being taken internally. Hydrogen dioxid and iodin preparations, used at the same time externally, may also cause intense burning in the skin. Mendenhall,[2] some time ago, called attention to a case in which the use of so-called colorless tincture of iodin, prepared by adding ordinary tincture of iodin to sodium thiosulphate to displace the color, in connection with an ointment of ammoniated mercury, caused a dermatitis, the author believes, on account of the formation of the irritating mercuric iodid. In the case of the iodin salt and the hydrogen dioxid, the latter probably acted as an oxidizing agent, setting free the iodin which caused the irritation. Other oxidizing agents, with the iodids or with mercurous salts, might act similarly. Another instance of an internal and external incompatibility would be sulphur taken for some time internally, and a solution of a mercuric salt applied externally. This might result not in a dermatitis, but in an unpleasant black deposit of mercuric sulphid in the skin, the sulphur being excreted by the skin.

PROFESSOR HEUBNER AND MARETIN

The good work which Professor Heubner, the editor of the *Therapeutische Monatshefte,* is doing for therapeutic advance has been referred to before. In the Current Medical Literature department of this issue there appears an abstract of an article by him on the proprietary remedy maretin (page 256, abst. 108). The article is interesting in that it shows that the valiant editor is not afraid to attack the products or methods of influential firms, for maretin is sold by one of Germany's most prominent manufacturers, the Farbenfabriken of Elberfeld Co. It brings out an important point, namely, that often a new remedy is heralded as a most wonderful discovery, but when tried is found wanting and is soon almost forgotten by the profession. Then after a period of quiescence it may be again "pushed" by the manufacturers, and this regardless of the unfavorable results obtained with it when first introduced. Maretin was first put out in 1904 as "detoxicated acetanilid." It was tried, found unsatisfactory and by no means non-toxic. Now it appears to be again brought forward in Germany and Professor Heubner deserves credit for his handling of the matter. It is to be hoped that Heubner's discussion may be the means of preventing the introduction of this preparation in the United States.

Clinical and Histologic Effects of Total Arrest of Circulation for an Hour.—Depage of Brussels was operating on a boy of 15 for osteomyelitis of the femur when the patient's heart stopped beating. Notwithstanding all measures for resuscitation for a whole hour, including massage of the heart, there were no signs of revival, but then a pint of salt solution was infused and under the influence of this the massage of the heart proved successful and the boy was resuscitated. His mind, however, seemed affected; he was agitated and delirious, but there were no motor disturbances or modification of the reflexes. He remained in this condition for nine days, the temperature going up to 40.5 C (105 F.) and then he died. The university pathologist, R. Sand, examined minutely innumerable sections of the brain and other organs, regarding the case as equivalent to a laboratory experiment on the effects of total arrest of the circulation for an hour, conditions in the brain having been practically the same, he thinks, as when the circulation has been shut off from an organ by a ligature. His report was read at a recent meeting of the Belgian Académie de Médecine. It stated that there "was not a single nerve cell intact in the entire extent of the cerebrospinal axis," and, further, "that the case teaches the value of saline infusion as an adjuvant in chloroform accidents." Sand's conclusions were qualified by the academy, in accepting the report, as being "rather too sweeping"—the patient had not exhibited symptoms which would have been inevitable if every nerve cell had been injured.

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1. Miro, A. P.: Revista Med. Cubana, March, 1911.
2. Mendenhall, A. M.: Chemical Dermatitis from Incompatible External Applications, The Journal A. M. A., May 13, 1911, p. 1389.

Medical News

ALABAMA

Personal.—Dr. Merrick D. Thomas, Waverly, has been appointed clinical instructor in obstetrics in Birmingham Medical College.——Dr. George Rau, Tuscaloosa, has subleased the Tuscaloosa Infirmary and has assumed complete control of the institution.

Fresh Air Camp.—The committee chosen from the Montgomery Antituberculosis League to examine sites for the fresh air camp has settled on a tract of land on the lower Wetumpka Road and hopes to close the deal at once. The league has about $1,000 at present in its treasury.

ARIZONA

Personal.—Dr. and Mrs. Francis H. Redewill, Phoenix, have returned from Europe.——Dr. George D. Troutman, Tucson, who recently underwent an operation in St. Joseph's Hospital, Phoenix, has recovered and resumed practice.

ARKANSAS

Personal.—Dr. John M. Taylor, Fort Smith, was operated on for appendicitis at St. Edward's Infirmary in that city, June 7.——Dr. Samuel E. Thompson has been appointed a member of the board of health of El Dorado.——Dr. A. Earl Hardin has been appointed health officer of Fort Smith.——Dr. Arthur G. Thompson has been reelected president of the board of health of Pine Bluff.——Drs. Curtis W. Chaffin and Albert L. Wilsford, Moro, are ill with septicemia, due to operation wounds.——Dr. Anderson Watkins has been elected medical director of the Little Rock School Board vice Dr. James H. Lenow.

State Board Appointments.—The governor has appointed the following members of the Eclectic State Medical Board: Drs. Rosco M. Jernigan, Fitzhugh; Samuel W. Moreland, Jonesboro; E. L. Sullivan, Poughkeepsie; M. C. Nixon, Smithville; Lycurgus Gardner, Atkins; Jonathon Darrough, Paris; J. O. Hinton, Hot Springs; W. Carl Dallingbaugh, Pine Bluff, and James L. Vail and S. G. Boyne, Little Rock.——Dr. Francis T. Isbell, Horatio, has been appointed a member of the State Medical Examining Board, vice Dr. Merrieman L. Norwood, Locksburg, and Drs. Montague Fink, Helena, and George S. Brown, Conway, have been appointed members of the board to succeed themselves.

COLORADO

Bequest.—By the will of the late Moses Stern, South Bend, Ind., $2,000 is bequeathed to the National Jewish Hospital for Consumptives, Denver.

Personal.—Dr. Seymour D. Van Meter, Denver, secretary of the State Board of Medical Examiners for ten years, has been made president of the board.——Dr. William C. Mitchell, Denver, has returned from Europe.——Dr. Perry F. Purdue, Sterling, was operated on recently for appendicitis and is reported to be doing well.

Divine Healer Cannot Accept Fee.—In the case of the people against Edward C. Smith, the so-called "divine healer," at Denver, the state supreme court has affirmed the decision of the lower court that the defendant could not accept a fee for the treatment of diseases unless he had a license from the State Board of Health. The court held that "the commercial practice of healing by prayer, followed as a money-making venture or occupation, is the practice of medicine within the plain meaning of the statute."

GEORGIA

Physicians' Building Planned.—The plan of the Realty Trust Company, Atlanta, to erect a ten-story office building to accommodate physicians and dentists of the city and to cost about $400,000, has been endorsed by the Fulton County Medical Society.

Personal.—Drs. John G. Wilkins and James P. Hall have been elected ward physicians of Atlanta.——Dr. John F. Harris has been elected chairman of the Board of Health of Dalton.——Drs. Ross P. Cox, George B. Smith, J. William De Lay and James C. Watts have been elected members of the Rome Board of Health.——Dr. Victor H. Bassett, Savannah, and all the members of his family are ill with typhoid fever in the hospitals of Savannah. One child has died.——Dr. Alfred L. Fowler has resigned his position as physician at the United States penitentiary in Atlanta.——Dr. William H. Doughty, Augusta, has been appointed a member of the State Board of Health to succeed the late Dr. James B. Morgan.

ILLINOIS

Society Meeting.—The Edgar County Medical Society held a meeting at Paris, June 22, and elected the following officers for the ensuing year: President, Dr. Byron G. Williams; vice-president, Dr. John W. Evinger; secretary-treasurer, Dr. George Hunt, all of Paris.

Asylums Exempt from Ten-Hour Law.—Attorney-General Stead, in an opinion rendered to the state board of administration, July 8, holds that the women's ten-hour law does not apply to any of the state institutions. He says that unless there is a specific provision in the act to the effect that the law applies to the state institutions it cannot be made to apply to them, as the state is sovereign.

Personal.—Dr. Albert E. Brown, Waukegan, has been reelected physician of Lake County.——Dr. Austin L. Green, Milford, is reported to be seriously ill.——Dr. Christopher D. Mowry, Aurora, is suffering from blood-poisoning as the result of a dog bite of the hand.——Dr. Ralph T. Smith, DeKalb, sailed for Europe, June 17.——Dr. Charles B. Dirks, Kankakee, has been appointed superintendent of the Elgin State Hospital, vice Dr. Frank H. Jenks, resigned.——Dr. James A. Rutledge, Elgin, has been appointed head physician of the Woodman Sanatorium, Colorado Springs, Colo.——Dr. Katherine E. James, Rockford, was injured while cranking her automobile. The extent of the injury is not yet known, but it is not thought that the wrist is fractured.——Dr. William T. Dowdall, Peoria, has been appointed local surgeon of the Illinois Central Railway Company in place of Dr. Robert C. Bradley, resigned.——Dr. Seymour H. Woodworth, Park Ridge, was seriously injured in an automobile accident near Lake Zurich, July 7.——Dr. George Steeley, Danville, has been appointed a member of the pension examining board, vice Dr. William A. Cochran, appointed chief surgeon at the Soldiers' Home Hospital.——Dr. Henry T. Godfrey, Galena, has removed to Omaha.

Chicago

Personal.—Dr. Paul Forgrave has been appointed house physician of the City Hospital, Akron, Ohio.——Dr. and Mrs. Olaf Martin Steffenson sailed for Europe June 24.——Dr. H. R. Schwarze has been appointed assistant director of the state biologic laboratory.——Dr. and Mrs. Edward L. Moorhead and son sailed for Europe July 4.

INDIANA

Bequest.—Mrs. Eva Wetli, who died recently from tuberculosis at St. Elizabeth's Hospital, Lafayette, bequeathed $5,000 for the establishment of a consumptive's cottage at that hospital.

Personal.—Dr. James H. Morrison, health officer of Bartholomew County, is seriously ill at his home in Hartsville.——Dr. George Miller, Hammond, is at St. Margaret's Hospital, suffering with malaria.——Dr. John P. Nicodemus, Logansport, has four fractured ribs and severe bruises and sprains, the results of an automobile accident.——Dr. and Mrs. Green V. Woollen, Indianapolis, received slight injuries when a speeding automobile crashed into their buggy.——Dr. Warren R. King, surgeon at the State Soldier's Home, has resigned.——Dr. Henry V. Passage, Peru, is reported to be critically ill.——Dr. John F. Glover, Evansville, for thirteen years assistant superintendent at the Southern Indiana Hospital for the Insane, has resigned.——Dr. James H. Walker, Henryville, has been appointed chief physician at the Indiana reformatory to succeed Dr. Richard H. Smith, Kokomo, who has resigned to become chief surgeon of the American Rolling Mill Company at Middletown, Ohio.——Dr. Charles E. Dutrow, Bristol, sustained severe spinal injuries recently in a fall.——Dr. Ezra W. Depew, Wolflake, is reported to be critically ill.——Dr. John L. Masters, Indianapolis, is rapidly recovering after an operation for appendicitis.——Dr. James A. Mattison, who has been connected with the hospital of the National Military Home for the past nine years, has been promoted to governor and chief surgeon of the Battle Mountain Sanitarium at Hot Springs, S. D.

MAINE

State Society Meeting.—The fifty-ninth annual meeting of the Maine Medical Association was held at Augusta, June 28-29. The annual oration was by Dr. Henry A. Christian, Boston, dean of Harvard Medical School, on "Modern Methods of Clinical Investigations in Relation to Hospital Organization." The following officers were elected: President, Dr. Stanley P. Warren, Portland; vice-presidents, Drs. William C. Peters, Bangor, and Luther G. Bunker, Waterville; secretary, Dr. Willis B. Moulton, Portland; treasurer, Edwin W.

Gehring, Portland; legislative committee, Drs. Seth C. Gordon, William L. Cousins, Stanley P. Warren and Willis B. Moulton, all of Portland.

MARYLAND

Personal.—Dr. William Dick Campbell, Hagerstown, suffered severe burns July 7 by the ignition of alcohol with which he had been bathing his arms.

State Board Sustained.—The Circuit Court at Towson has decided in favor of the State Board of Health against a deputy sheriff of Baltimore County, who had prevented the representative of the board from making an inspection of his property to ascertain whether or not sewage from his house flowed into Lake Roland, one of the sources of water supply for Baltimore.

Baltimore

Bequest.—It is understood that the bequest of the late Dr. Charles M. Ellis of Elkton of about $20,000 to the Medical and Chirurgical Faculty is to be applied toward the endowment of the library.

China Missionary in Baltimore.—Dr. Edward Hume, head of the medical staff at the Yale Mission in Chang-Sha, is visiting at his home in Baltimore. He was on duty through the uprising in China last year and is now enjoying a furlough of eighteen months.

Coroner Exonerated.—Dr. Otto M. Reinhardt, coroner of the southern district, who was charged with conduct unbecoming a state officer and with influencing a coroner's jury, was acquitted July 5, after a hearing by the governor, who did not even summon Dr. Reinhardt to give testimony.

Personal.—Dr. L. McLane Tiffany has recovered from his recent severe illness.——Dr. Christian Deetjen, *x*-ray specialist, underwent operation June 28 for burns of the hands brought on from exposure to the *x*-ray, fourteen such spots being cut out and fresh skin from the thighs transplanted to their sites.——Dr. Joseph B. Piggett, superintendent of the University Hospital, has gone to Grafton, W. Va., to take up private practice and has been succeeded by Dr. William Joseph Coleman, Mineral, Va.——Dr. Arthur P. Herring has succeeded Dr. Emil Novak as editor of the *Bulletin of the Medical and Chirurgical Faculty of Maryland.* His associates are Drs. John Ruhrah and John S. Davis.——Dr. Nathan Winslow has been appointed associate professor of surgery in the University of Maryland.——Dr. Edward Bailey Beasley has been given the degree of Doctor of Public Health by Harvard University. The title of Dr. Beasley's dissertation was "Permeability of Slow Sand Filters to Bacillus Typhosus."——Dr. James B. Bennett sailed for Bremen, July 7.——Drs. John M. T. Finney and J. M. H. Rowland are said to have been removed from the board of school commissioners by the mayor because they would not consent, at his dictation, to remove from office the superintendent of schools, against whom no charge had been made.——Drs. Alfred T. Chambers and James M. Delevett have been appointed members of the Board of School Commissioners to fill vacancies.——Dr. Harry Friedenwald has been elected president of the Federation of American Zionists.

MISSOURI

Birthday Gift.—A handsomely framed portrait of Dr. Oliver Wendell Holmes was presented as a birthday testimonial to Dr. Ambrose Talbot, medical director of the Kansas City Life Insurance Company, by the employees of that company, June 14. Dr. Holmes was Dr. Talbot's tutor in his college days.

Society Elects.—At the meeting of the North Missouri Medical Association held in Columbia, June 22-23, the following officers were elected: president, Dr. J. C. Lyter, Moberly; vice-presidents, Dr. Charles O. Davidson, Jefferson City, and Dr. W. O. Hawkinson, Roanoke; secretary, Dr. E. M. Gilford, Monroe City; corresponding secretary, Dr. J. Wilson, Kirksville.

Personal.—Dr. James A. Watermann, head physician at the state penitentiary, Jefferson City, has been elected superintendent of State Hospital No. 4, Farmington.——Dr. John Green, Jr., St. Louis, has been reelected director of the Missouri Crematory Association.——Dr. Ambrose W. Teel, Kahoka, has been appointed special examiner for Clark County for the Missouri State Sanatorium.

Million for Hospital.—At the meeting of the International Missionary Convention of the Christian Church, held at Portland, Ore., July 8, R. A. Long, a lumberman of Kansas City, announced that he would, during the next ten years, give $1,000,000 for the establishment of a non-sectarian national hospital to be erected on a tract of land thirty-eight acres in extent in Kansas City owned by the Christian Church. The donation is contingent on the raising of $1,000,000 by the church and on one-third of the beds in the institution bein free.

NEBRASKA

Health Association Election.—The Nebraska State Health Association, at its annual meeting in Omaha, June 13-14 elected Dr. William H. Wilson, state health inspector, Lincoln president; Dr. Solon R. Towne, *Omaha, vice-president,* and Dr. William F. Mitchell, Superior, secretary and treasurer The next meeting will be held at Hastings in September.

New Sanitarium for Omaha.—Drs. Charles C. Allison, Harold Gifford, Frank E. Coulter, Joseph M. Aikin, Arthur D. Dunn Willson O. Bridges and Frank S. Dunham, Cozad, and Dr John W. Koutsky, South Omaha, are incorporators of the Hanscom Park Sanitarium which has secured the old Holdredge home on Thirty-Second Avenue, Omaha, and will convert the building into a thirty-room sanitarium and hospital for nervous and mental diseases.

Personal.—Dr. John M. Banister, Medical Corps, U. S. Army retired, has entered into active practice as an oculist in Omaha.——Dr. Chester D. Barnes, Tecumseh, while shooting rats, June 22, suffered severe injuries by the accidental discharge of his gun, necessitating the amputation of a portion of the foot.——Dr. Hans P. Jensen, Omaha, is reported to be seriously ill with malignant disease of the stomach.——Fire in the office of Dr. Walter R. Townsend, Lincoln, June 30, caused considerable damage to his library and office equipment.

NEW JERSEY

Election.—The New Jersey Pediatric Society held its annual meeting at Atlantic City, June 26, and the following officers were elected: president, Dr. Henry L. Coit, Newark; vice-president, Dr. Alexander McAlister, Camden; treasurer, Dr. Benjamin Van D. Hedges, Plainfield; secretary, Dr. Martin J. Synnot, Mont Clair; councilors, Drs. Francis H. Glazebrook, Morristown; J. Finley Bell, Englewood; Thomas N. Gray, East Orange; Burdette P. Craig, Jersey City.

State Society Meeting.—At the annual meeting of the New Jersey State Medical Society held at Spring Lake, June 13-15, the following officers were elected: president, Dr. Daniel Strock, *Camden; vice-presidents, Drs. Norton L. Wilson, Elizabeth;* Enoch Hollingshead, Pemberton, and Frank D. Gray, Jersey City; corresponding secretary, Dr. Harry A. Stout, Wenonah; recording secretary, Dr. William J. Chandler, South Orange; and treasurer, Dr. Archibald Mercer, Newark. The next session will be held at Spring Lake in June, 1912.

NEW MEXICO

New Society Organized.—The physicians of Taos County met in Virsylvia recently and organized the Taos County Medical Club, electing Dr. Isaac N. Woodman, Cerro, president; Dr. Allison, vice-president, and Dr. H. H. Johnson, secretary.

Personal.—Dr. Celia W. Taylor Goodman, Albuquerque, who is about to leave for California on account of failing health, was presented with a silk umbrella, June 19, by the Bernalillo County Medical Society.——Capt. Charles F. Beeson, M.C., N.M.N.G., has been placed in charge of the organization of the hospital corps for the state militia.——Dr. Stanley G. Small, Santa Fe, was operated on for appendicitis recently at St. Vincent's Sanitarium, El Paso, Tex., and is *making* a satisfactory recovery.

NEW YORK

Permission Granted for Sanitarium.—The application of the Metropolitan Life Insurance Company for permission to build and maintain a tuberculosis sanitarium at Mount MacGregor has been granted.

Decrease in Death-Rate.—There were 34,506 births reported in Greater New York during the first quarter of the present year, an increase of 1,901 over the same period in 1910. The number of marriages reported was 11,495, an increase of 1,412. The number of deaths was 20,876, against 20,660 in 1910, an increase of 216, but the death-rate was 17 per 1,000 against 17.45 during the first quarter of last year, *a decrease of* 0.45 of a point. In children under 1 year there was a decrease of 468 deaths; in children under 5 years, a decrease of 1,099, and a decrease of 620 deaths in the ages from 5 to 65. In the group, 65 and over, there was an increase of eighty-five deaths.

New York City

Dispensary Opened.—The new building of the Hebrew Ladies' Dispensary on Williamsburg Street was opened with a parade without other ceremony, June 27.

Free Clinic for Mental Diseases.—The first free clinic for incipient mental diseases in New York City was opened in the Long Island State Hospital for the Insane, July 3.

Sydenham Hospital Closed.—The doors of the nine buildings comprising Sydenham Hospital were closed, June 30, until suitable alterations can be made or new hospital buildings erected which will comply with the regulations of the state board of charities regarding adequate air space and those of the building department concerning fire escapes, etc.

Personal.—Dr. Adolph I. Ringer of the department of medicine of Cornell University has been appointed instructor in physiologic chemistry in the University of Pennsylvania, Philadelphia.——Dr. William J. Robinson sailed for Europe July 1.——Dr. Joel Grosner had a narrow escape from death when he swallowed a solution of bichlorid of mercury, June 28, mistaking it for water.——Dr. P. Hanson Hiss, Jr., Brooklyn, has been appointed medical examiner by the state board of regents.——Dr. George R. Lockwood, Jr., is reported to be critically ill with gastric ulcer.

The Cholera Situation.—A steerage passenger on the steamship *Duca Degli Abruzzi* which arrived in New York, June 20, died at Auburn, July 1, from what is diagnosed as Asiatic cholera, and a second passenger on this steamer is said to have died in Brooklyn, July 4, from the same cause. The health officer of the port of New York, after conference with Surgeon-General Wyman of the U. S. P. H. & M.-H. Service, has decided that passengers arriving in New York on steamships on which there is any suspicion of cholera are hereafter to be detained ten days at quarantine instead of five as heretofore.——The steamship *Moltke* which arrived in New York from the Mediterranean, July 5, has been detained at quarantine on account of a case of suspected Asiatic cholera.

The Rockefeller Institute and Anterior Poliomyelitis.—The Rockefeller Institute for Medical Research announces that it will devote its resources very largely during the present season to the study of anterior poliomyelitis and the treatment of acute cases of this disease in its hospital. Physicians and health officers who desire to cooperate in this investigation may do so by sending information concerning the occurrence and prevalence of the disease or by referring acute cases to the Hospital of the Rockefeller Institute. Dr. Flexner renews his request of last year that whenever possible a portion of the spinal cord and of the naso-pharyngeal mucosa derived from fatal cases of the disease be sent to him. Specimens should be preserved in glycerin and sent by mail to Dr. Simon Flexner, Sixty-Sixth Street and Avenue A, New York City.

Bequests to Hospitals.—By the will of the late George L. Fox of Brooklyn, St. Catherine's Hospital will receive $25,000; Brooklyn Hospital, $20,000; Eastern District Hospital, $100,000; St. Mary's Hospital, $25,000; German Hospital, $25,000; Home for the Aged of the Little Sisters of the Poor, $50,000; Industrial Home for the Blind, $15,000; Brooklyn Home for Consumptives, $10,000; St. John's Hospital, $10,000, and the New York Ophthalmic and Aural Institute, $10,000.——The will of the late Charles Engert of Brooklyn gives St. Catherine's Hospital, $10,000; St. Mary's Hospital and Dispensary, $5,000; the German Hospital Society, $5,000, and St. Peter's Hospital, $5,000.——The will of the late Walter E. Duryea leaves $5,000 to the Nassau Hospital, Mineola; on the death of a sister the hospital is to receive $75,000, and Roosevelt Hospital receives $15,000.——The Presbyterian Hospital receives a bequest of $1,000 by the will of the late Samuel Hall.——The will of the late Martin Herman leaves $5,000 to Mount Sinai Hospital and $1,000 to the Beth Israel Hospital.——The will of George H. Morgan leaves $2,000 to the Hospital for Ruptured and Crippled.——The will of the late Oscar Egerton Schmidt gives $5,000 to the New York Orthopedic Dispensary, and also the residue of his estate, the amount of which has not been made public.

NORTH CAROLINA

New Nurses' Home.—The new nurses' home and the woman's pavilion to the new Watts Hospital in Durham are ready for use. The home is reinforced concrete, harmonious in construction with the other Watts Hospital buildings. The whole is the gift of Mr. George W. Watts, who placed the control of the property for all time to come in the hands of the Durham County Medical Society.

Health Officers' Association.—At Charlotte, June 19, the North Carolina Health Officers' Association was formally launched, with the following as officers: president, Dr. Lewis B. McBrayer, Asheville; vice-president, Dr. Lucius N. Glenn, Gastonia; secretary-treasurer, Dr. Watson S. Rankin, Raleigh. The constitution and by-laws adopted limit membership to members of state, county or municipal boards of health or employees of the same.

Appointments.—Governor Kitchen has appointed as trustees for the State Sanatorium for Tuberculosis the following: Dr. Isaac E. Green, Weldon; Mr. J. D. Daws, Elizabeth City, and Mr. William E. Breese, Jr., Brevard.——Dr. Charles T. Nesbitt, Wilmington, recently appointed health officer of that city, will receive a salary of $2,000 annually, with an assistant at a salary of $900 annually, and will be required to give his entire time to the municipal health matters.

PENNSYLVANIA

Rittersville to be Completed.—The new Rittersville Hospital Commission has decided to conform to the governor's suggestions to finish one ward immediately for the reception of patients and to advertise for bids, both for the completion of the institution and for finishing the various wards. The chairman of the new committee has announced that the work and accounts of the body are to be open to the public.

More State Medical Legislation.—Governor Tener has signed the following additional laws, affecting medical matters in Pennsylvania: A commission to study a plan for permanent segregation of the feeble-minded. The object is to prevent procreation of defectives. A vaccination commission. Twenty-five hundred dollars of the people's funds will be wasted in this scheme of antivaccinationists to "learn" what is already public information. The personnel of this commission will decide the extent of harm possible by the schemers, and medical leaders should promptly interview the governor as to representation of the profession. The sum of $10,000 will be applied for registration of births and deaths. In a future legislature the Michigan law of paying every physician for this service (as is done the lawyers and others) should be enacted. A law now becomes effective by which only the state's Bureau of Medical Education and Licensure can license midwives and this includes that infants' eyes, when diseased, can only be treated by licensed physicians. The object, of course, is to prevent unnecessary blindness, criminal abortions and puerperal disease.

Philadelphia

New Committee on Criminal Abortion.—The president of the Philadelphia County Medical Society has named Drs. Richard Norris, Samuel M. Wilson and Henry W. Cattell, chairman, to serve for the current year as a committee on criminal abortion.

New Department.—The University Hospital has added a Pasteur department for the treatment of cases of hydrophobia and it will be accessible to any person thought to have been bitten by an infected animal. Until this was opened the nearest Pasteur institute was in New York. The new department is under the charge of Dr. Alfred Stengel.

More Milk Dumped.—Milk condemned and dumped since June 15, because it was more than 60 degrees in temperature when it reached the receiving station, amounted to 630 quarts. The records of the division of milk inspection show that 210 quarts of the number dumped came in over the Reading Railway lines, which company has failed to provide refrigerator cars.

University Summer School Opens.—The School of Observation of the University of Pennsylvania, under the direction of the psychologic department, opened on Thursday, July 6, with more than 200 children in attendance. A class of twenty backward pupils are to be under direction of a special teacher. Lunches will be provided and special care of diet and proper preparation of food will be undertaken under the supervision of the psychologic clinic.

Babies' Hospital.—Subscriptions amounting to $3,500, the use of the property at Wynnefield, Fairmount Park, belonging to and formerly used by the Children's Hospital, selection of a board of managers and a free ambulance service, donated by the *Evening Telegraph*, have done much toward completion of plans for the hospital for treatment of infants, to be known as "The Babies' Hospital." The hospital is most accessible, as the trolleys from the northeast and downtown sections of the city connect with the park trolleys running direct to the institution and the Pennsylvania railroad station at Wynnefield is at the entrance of the grounds. Subscriptions may be sent to Doctor Sinclair, who is treasurer, or the *North American* will be glad to forward any subscriptions offered through this newspaper.

Tuberculosis Camp on Pier.—A day camp for the treatment of the consumptive poor of the tenement districts will be maintained on the pier at the foot of Bainbridge Street during the months of July, August and September. A pavilion, 25 feet from the edge of the pier, 30 by 40 feet, to accommodate about thirty cure chairs, will be built with canvas covering and roller side curtains to protect patients from the sun, the side facing the river to be left open. A light lunch, consisting of milk, bread and butter will be served at 10 a. m. and 3 p. m. and a more substantial meal provided at midday. Special attention will be given to children of mothers obliged to become patients at the pier and instructions in cooking will be given by the nurse in attendance. Drs. Neff and Francine have sent out letters to interest the public in this project and the camp will be under the supervision of a corps of physicians.

University Changes.—Following the close of the school term many changes have been made in the medical faculty of the University of Pennsylvania. The list of appointments follows: Dr. G. T. Thomas to be associate of applied anatomy; Dr. G. W. Norris to become assistant professor of medicine in place of the late A. O. J. Kelly; Drs. J. Rex Hobensack, W. E. Quicksall, P. G. Skillern and N. Ginsburg to become assistant demonstrators in anatomy; Dr. Howard A. Sutton, assistant demonstrator of anatomy, to become assistant demonstrator of osteology; Dr. Norman L. Knipe to become assistant instructor in obstetrics; Dr. Oscar H. Plant to become demonstrator in pharmacology; Dr. J. H. Austin, demonstrator in pathology, to become associate in research medicine; Dr. A. B. Eisenbrey, associate in research medicine, to become instructor in surgery; Dr. J. G. Hickey, absent on leave, will resume duty as assistant in physiology; Dr. A. H. Hopkins will become assistant instructor in medicine; Dr. F. C. Knowles will become instructor in gynecology; Dr. R. S. Laveson, absent on leave, will resume duty as instructor in medicine; Dr. W. H. MacKinney will become assistant instructor in genito-urinary diseases; Dr. W. C. Rose will become assistant instructor in physiologic chemistry; Dr. A. I. Ringer will become instructor in physiologic chemistry; Dr. A. H. Wood will succeed Dr. A. R. Allen as lecturer on electrotherapeutics.

Personal.—Dr. James Thorington has been appointed ophthalmic surgeon to the Presbyterian Hospital to fill the position made vacant by the death of Dr. Oliver.——Dr. J. M. Griscom has been appointed chief of the eye dispensary in the service of Dr. Thorington at the Presbyterian Hospital.——Dr. F. X. Dercum, professor of neurology in Jefferson Medical College, has been elected a corresponding member of the Society of Psychiatry and Neurology of Vienna.——Dr. Warren C. Batroff, director of the clinical laboratory of the Medico-Chirurgical College, has just returned from a three months' tour in Europe.——Dr. Herbert Fox has resigned his position as chief of laboratories of the Pennsylvania Department of Health to assume the directorship of the Pepper Laboratories of the University of Pennsylvania. Dr. Fox was the first chief of the department under the state authorities, having held the position since its inception five years ago.——Drs. Donnel Hughes and B. R. Marsden sailed for Europe June 28 and Drs. J. C. Boyer, A. A. Bliss and Wendell Reber on July 1.——Dr. Henry Beates, Jr., has resigned from the State Board of Medical Examiners, a position that he has held continuously since the board's creation, seventeen years ago. He has been its president since 1899.——Lafayette College conferred the degree of doctor of laws on Dr. Gwilym G. Davis, professor of orthopedic surgery in the University of Pennsylvania.——Dr. S. Lewis Ziegler sailed for Europe July 4 and Drs. Walter L. Pyle, Max Roedman, Charles F. Taylor and Arthur J. Zimlick on July 8.

TENNESSEE

Personal.—Dr. Jasper Kelsey, Lynnville, is suffering from whooping cough.

Vanderbilt Faculty.—The faculty of the medical department of Vanderbilt University has been declared vacant. An entirely new faculty will be chosen for that department within the next few days.

Society Meetings.—The twentieth annual meeting of the West Tennessee Medical Association was held in Dyersburg, May 10 and 11, and the following officers were elected: president, Dr. J. Augustus Crisler, Memphis; vice-presidents, Drs. Reuben M. Biggs, Palmersville, and Richard W. Griffin, Tiptonville, and secretary, Dr. Isaac A. McSwain, Paris (reelected for the twentieth time). Memphis was selected as the next place of meeting.——At the thirty-fourth semi-annual meeting of the Middle Tennessee Medical Association, held in Lewisburg, May 18 and 19, the following officers were elected: president, Dr. R. N. Perry, Springville; vice president, Dr. Hilliard Wood, and secretary and treasurer, Dr. Kennett L. Jones, Lewisburg. Gallatin was selected as the next place of meeting.——At the annual meeting of the Upper Cumberland Medical Society, held in Monterey, May 24, the following officers were elected: president, Dr. John T. Moore, Algood; vice-presidents, Drs. W. C. Officer, Monterey, and Zeb L. Shipley, Cookeville; secretary, Dr. L. D. J. Ensor, Cookeville, and treasurer, Dr. R. E. Lee Smith, Doyle.——The Lower East Tennessee Medical Society was organized in Athens June 5 and 6. At the preliminary organization Dr. Chalmers Deaderick, Knoxville, was elected temporary secretary, but before the end of the meeting a permanent organization was effected, with the following officers: president, Dr. Gustavus Shipley, Athens; vice-presidents, Drs. James E. Davis, Sweetwater, and Carl T. Speck, Cleveland, and secretary-treasurer, Dr. W. S. Moore, Athens. The next meeting will be held in Cleveland in May, 1912.

VIRGINIA

Personal.—Dr. George W. Wallace, Norfolk, suffered a cerebral hemorrhage, June 25, and is reported to be in a serious condition.

Southwest Virginians Meet.—At the annual meeting of the Southwest Virginia Medical Society, held in Roanoke, June 20-21, the following officers were elected: president, Dr. W. Wamanch Chaffin, Pulaski; vice-presidents, Drs. Edmund C. Watson, Roanoke, William H. Ribble, Jr., Wytheville, and secretary and treasurer, Dr. Alfred B. Greiner, Rural Retreat.

Faculty Changes.—At a meeting of the trustees of the University of College of Medicine, Richmond, June 26, Dr. Charles T. McClintock, formerly of Detroit, was appointed professor of hygiene and placed in charge of the laboratory of physiologic chemistry, and Dr. Edgar C. L. Miller, also of Detroit, was made a member of the laboratory staff. Dr. H. Stuart MacLean resigned as professor of pathology and assistant professor of clinical surgery to give his attention to private practice. Dr. Schuyler B. Moon, Richmond, was elected professor of pathology and Dr. Benjamin M. Roseboro instructor of pediatrics.

WISCONSIN

Antituberculosis Association Incorporated.—Articles of incorporation of the Wisconsin Antituberculosis Association were filed with the secretary of state June 28, without capital stock. The incorporators are W. D. Frost, F. A. Hutchins and W. H. Lighty.

Retreat for Convalescent Tuberculosis Patients.—A Sanatorium for tuberculosis, which is to be entirely non-sectarian and in which convalescent cases shall be treated, is to be opened in Milwaukee this month. The Milwaukee Park Board has temporarily granted the use of the old Kern Property—about 20 acres—on the upper Milwaukee River near the Humboldt Avenue bridge.

Personal.—The touring car of Dr. Francis H. Kelley, Merrill, was totally destroyed as the result of back-firing of the engine July 4.——Dr. Aaron Yaffe, house physician of the Emergency Hospital, has taken up private practice in Milwaukee.——Dr. Frederick D. Bentley, Portage, who has been ill for several days, is reported to be securely convalescent.——Dr. James F. Malone, West Allis, sustained serious injuries in a collision between his automobile and a railway train recently.

GENERAL NEWS

Alumni Election.—The Harvard Medical Alumni Association, at its recent meeting in Boston, elected as president Dr. John Collins Warren, Boston; secretary, Dr. Robert M. Green, Boston; treasurer, Dr. W. Prescott Prescott, Boston; and councilors, Drs. W. S. Bryant, New York City, and Elisha Flagg and Elliott P. Joslin, Boston.

Academy of Medicine Meeting.—At the annual meeting of the American Academy of Medicine, held in Los Angeles, June 23-26, Dr. Alexander R. Craig, Chicago, was elected president and Dr. Charles McIntire, Easton, Pa., was reelected secretary. The following vice-presidents were elected: Drs. W. Blair Stewart, Atlantic City, N. J., Albert Goldspohn, Chicago, Ray L. Wilbur, Palo Alto, Cal., and Arthur E. Hertzler, Kansas City, Mo.

Dr. Eager Ordered to Sicily.—Owing to the fact that a number of ocean liners have arrived in New York and other American ports along the Atlantic coast from Italy with cholera on board, the United States Government has ordered Surgeon John M. Eager, U. S. P. H. and M.-H. S., quarantine officer at Portland, to go to Palermo, Island of Sicily. Dr. Eager was in Italy for seven years before coming to Portland and has had valuable experience in previous epidemics of cholera.

Insurance Examiners' Meeting.—The eleventh annual meeting of the American Association of Medical Examiners was held at Los Angeles. Cal., June 26-27, under the presidency of Dr. Liston H. Montgomery of Chicago. The following officers were elected: president. Dr. W. E. Grant, Louisville: vice-presidents. Drs. Charles T. Cutting. Boston; Frank W. Foxworthy. Indianapolis; L. Fitzgerald. Newark, N. J., and Wesley W. Beckett. Los Angeles; secretary. Dr. George Strobach. Cincinnati, and treasurer. Dr. Liston H. Montgomery, Chicago.

Personal.—Dr. Walter Wyman. Surgeon-General U. S. P. H. and M.-H. Service. had conferred on him the honorary degree of LL.D. by Amherst College at its ninetieth annual commencement. June 28.——The University of Michigan. Ann Arbor. has conferred on Dr. William A. Evans, Chicago. the honorary degree of Doctor of Public Health.——The Pacific Coast senators have requested the president to detail Surgeon George W. McCoy. U. S. P. H. and M.-H. Service, to aid the Harvard Research Laboratory. Shanghai. China. in the investigation of diseases prevalent in the Orient and which at times threaten the Pacific Coast.

FOREIGN NEWS

Silver Jubilee of Carlo Reymond.—The fiftieth anniversary of the connection of Carlo Reymond. professor of ophthalmology. with the medical faculty of the University of Turin. was celebrated by his friends and pupils may 18. A large *Festschrift* was presented to him containing his own collected works and an index of the works published by his assistants under his inspiration, numbering 450. Reymond has been on several international committees appointed to study a uniform standard for visual acuity, and means for prevention of blindness. etc., and he has done pioneer work in various lines, particularly in study of refraction defects.

International Congress for Study and Prevention of Infantile Mortality.—The third of these international infant welfare conferences (*gouttes de lait*) is to be held at Berlin, Sept. 11 to 15, 1911. Membership is open to every person. male or female, engaged scientifically or practically in study and prevention of infant mortality. The membership fee is $5. with associate membership of $2.50. The Hamburg-American Line and Norddeutscher Lloyd give special rates, the former allowing 25 per cent. discount between New York and Hamburg. Other steamer and railroad lines allow from 20 to 50 per cent. off the regular rate, according to the circular which will be sent by the secretary-general, Professor Dr. Keller, Mollwitzstrasse. Berlin-Charlottenburg. Germany. The Hamburg-American Line also takes charge of reserving rooms at the Berlin hotels. Address the Reisebureau der Hamburg-Amerika Linie, Unter den Linden 8. Berlin W. The preceding congresses were held in Paris in 1905 and at Brussels in 1907. There are four sections: teaching and instruction, the [illegible]s, laws and other measures of public [illegible] the protection and guardianship of infants, and statistics. By-laws are to be adopted completing the organization of the International Union for the Protection of Infants. The American committee for the congress will supply the official program and transportation circulars on application to the Executive Secretary, American Association for Study and Prevention of Infant Mortality, 1211 Cathedral Street, Baltimore.

CANADA

Injured by Explosion of Bottle.—Dr. Andrew Macphail. Montreal. editor of the *Canadian Medical Association Journal*. was severely injured by the explosion of a bottle of aerated water, June 18.

New Hospitals.—Mr. G. H. Perley, a member of parliament. has contributed $50.000 toward a tuberculosis hospital for Ottawa.——The board of control has recommended the acceptance of the bid of $33.701 for the reconstruction of the Municipal Small-Pox Hospital.

Provincial Society Meeting.—At the annual meeting of the Manitoba Medical Association. held in Portage la Prairie, June 23. the following officers were elected: president. Dr. Herbert P. H. Galloway, Winnipeg; vice-presidents. Drs. Daniel J. Ross. Selkirk, and John S. Poole. Neepawa; honorary secretary. Dr. Jasper Halpenny. Winnipeg; honorary treasurer, Dr. R. F. Rorke. Winnipeg, and executive committee. Drs. George Camsell. Austin: George Clingen, Virden; Samuel W. Prowse. Winnipeg; Cecil Parr, Morden, and Robert B. Culbertson, Dauphin.

LONDON LETTER

(From Our Regular Correspondent)

London, July 1, 1911.

The National Insurance Bill

The opposition to the national insurance bill, organized by the British Medical Association, not only of its own members but of the profession generally, has further developed. The association has sent to every doctor a circular inviting him to sign an undertaking that in the event of the bill passing, he will not enter into any agreement for attending the insured, excepting such as shall be satisfactory to the profession and in accordance with the declared policy of the association. and also to enter into such agreement only through a local medical committee, representative of the profession in the district in which he practices. At the same time doctors are asked to submit a memorial to Parliament, asking the government to postpone dealing with medical attendance until such terms shall have been arranged as shall afford reasonable assurance that competent doctors will be induced in the necessary numbers to enter into arrangements for treatment of the insured. which the proper administration of such benefits would require. The answers to these invitations have been very satisfactory: over 19,000 out of the 25,000 doctors in the country affected by the bill, have signed the undertaking and further pledges are coming in daily in great numbers. Funds are also being raised by the profession to meet any emergency which may arise if the bill passes. It is proposed that if the government does not yield to the profession's demands. to establish a fund for the indemnification of doctors who will lose part of their income by refusal to serve under the bill. Many offers of financial help have been received by the British Medical Association, both from doctors whose practices will be affected and doctors whose practices will not. Not only is there to be a central fund, but a number of branches of the association have started district funds, and others are only awaiting suggestions as to procedure from headquarters. The doctors of Fife (one of the Scottish counties) have established a fund, to which already about $25.000 have been promised. Funds have also been opened at Brighton and in several Lancashire towns. At Bury, for instance, the doctors have pledged themselves to pay any levy which may be imposed on them "for the purpose of carrying this matter through." Many branches of the association have passed resolutions declining to serve under the bill, unless their demands are acceded to, and some have even gone so far as to pledge themselves to resign any friendly society appointments which they at present hold and to decline any similar appointment which may be offered, if required to do so by the association. At Cardiff, the largest city in Wales, the South Wales and Monmouthshire branch of the British Medical Association passed the very drastic resolution, that unless the bill is so modified as to obtain the approval of the profession, the association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom. Mr. Lloyd-George, the chancellor of the exchequer, appears at last to have realized the grave mistake he made in introducing this bill without proper consultation with the leaders of the profession. He has just held two private interviews with representatives of the British Medical Association, and it is reported that he has consented to lower the wage limit for medical benefits from $800 to $625 yearly. I very much doubt that this will be accepted by the profession. It may be remembered that in my previous letters to The Journal, the demand of the profession was for a wage limit of $500 and that many doctors consider this too high and advocated a limit of about $350.

Plague-Infected Rats in London

The health authorities are much exercised by the discovery that at least four out of a dozen rats caught at Wapping, a district of London near the Thames. were infected with plague. Concern is increased by two facts: First, the district is higher up the river than the situations in which plague-infected rats have previously been caught. Second, it is early in the season for an epizootic of rat plague to have attained sufficient proportions to develop. This fact is probably due to a spell of warm weather unprecedented in recent years. Careful search is being made for other infected rats. During the last three years plague-infected rats have been discovered in proximity to the shipping in the port, but no extensive mortality among rats was observed. so that the disease appears to have been limited to a few colonies of rats. So far, the only wide-spread epizootic of rat plague observed in this country has occurred in an agricultural district of Suffolk near the sea, to which it was supposed to be brought by grain ships entering the river Orwell from infected countries (The Journal, Nov. 19, 1910, p. 1820). In connection with this epizootic, four fatal cases of pneumonic plague in man occurred. The relative immunity of man from plague in the presence of the epizootic in this country, as compared with oriental countries, is explained by the fact that rats are not tolerated and allowed to live undisturbed in human dwellings, as they are in the East, where religious opinions often prevent their destruction. Moreover, the Indian hut is kept in a dirty litter that affords plenty of cover for rats to nest and the bare feet and legs of its occupants give ample opportunities for biting.

The Advertising of Nostrums by the Religious Press

It is one of the ironies of life that the religious press should be among the worst offenders in the advertising of the fraudulent claims of nostrums. It is extensively used by the exploiters who are astute enough to know that many simple people will think that the admission of an advertisement of a nostrum into a religious paper is some guarantee of its respectability. The subject has come under discussion in connection with the well-known periodicals issued directly under the authority of the Church of Scotland, in which nostrums are advertised, not only in the columns set apart for advertisements but also in those devoted to theological matter. This reprehensible practice was brought before the general assembly of the church by Professor Curtis of Aberdeen who moved to exclude "all advertisements of secret or patent remedies of a medical or quasi-medical description," in order that "the disinterestedness and Christian character of accredited organs of the church might be above suspicion in that respect." The professor said that the crusade of the recognized organs of medical opinion against the indiscriminate puffing of secret remedies was sorely needed. This puffing told severely on the poor, who were not unnaturally impressed in favor of the "remedies" by the "respectable," not to say "unworldly" pose of such an advertising medium as the religious press. Amidst the laughter of the assembly he drew attention to the analyses by the *British Medical Journal* of some of these vaunted "remedies" containing such ordinary ingredients as aloes, ginger and soap, costing ½ cent and sold for fifty times that amount. After discussion, the professor's motion was rejected by a large majority. An argument which seemed to weigh very much with the assembly was that one of the magazines in question was largely supported by, if indeed it did not exist on, such advertising connections. Another argument was that, the church should "let well alone" and leave the business of the periodicals to their managers. Thus the assembly of the national Church of Scotland connives at dishonesty because it pays! If those whose profession is to teach morality tolerate such venality, what can be expected from the lay press?

Postgraduate Extension Study

A new departure in postgraduate teaching has been made by the University of Bristol, which has organized a course of demonstrations of recent research in pathology and bacteriology, at various centers in the southwest of England. The object is to permit doctors who cannot spare the time to journey to the university to see and investigate the practical application of recent discoveries. The first course of six weekly demonstrations was given at a small town, Frome in Somerset. Twenty-two doctors attended from the surrounding district. It was conducted by Dr. Walker Hall, professor of pathology in the University of Bristol. At the close of the course a dinner was given to the lecturer, Dr. Rattray, who presided, eulogized the spirited policy of the university which had placed at the disposal of those living in remote parts so excellent an opportunity of learning at first hand something of the extension of recent knowledge. Prof. Walker Hall had come among them as a scientific missionary and had made several of the difficult problems of the day clear and comprehensible. The idea of this course arose from an address given by Dr. Rattray as president of the Bath and Bristol branch of the British Medical Association, in which he pointed out how much more advantageous it was to see the application of the results of the newer methods of treatment and operation than to read about them. When they are seen, the physician could gauge in what cases he would adopt or recommend their application. On the medical side, the methods to which he referred were vaccine and serum-therapy, blood examinations, the opsonic index, radiology and ionic medication. On the surgical side, he thought it was well that the doctor should see the application of gastroscopy, bronchoscopy, etc., although he did not practice them.

The Cancer Hospital Research Institute

If we are as far as ever from knowing definitely the cause of cancer, it is certainly not for want of money and work devoted to the investigation of this dread disease. A cancer research laboratory has long been maintained by the Middlesex hospital, which has special wards for this disease. The Cancer Research Fund, instituted by the king, has maintained laboratories for many years at which eminent pathologists both of this and other countries have worked for a long time. Now a new research institute has been opened at the Cancer Hospital in the Fulham Road. It is a lofty building of three floors with a spacious basement. It measures 60 feet in width and 40 feet from back to front, and the height of rooms is from 12 to 14 feet. It contains ten separate laboratories, each thoroughly equipped. The usual passages have been abolished, and the laboratories which intercommunicate open also directly on to the staircase around the central lift. The ground floor is devoted principally to administrative purposes and contains a large reference room and library and directors' laboratory, which is to be devoted chiefly to the study of parasitology in its bacteriologic and cytologic aspects. It well illustrates the care with which the equipment has been carried out. The window stretching along the whole of one side of the room has narrow metal frames so as not to obstruct the light. A system of travelling electric lamps has been installed; the basins are fitted with telescopic plugs. On the first floor are the main research laboratories, which include a laboratory for comparative pathology, equipped with a kymograph and a Cambridge microtome for cutting large sections; a large chemical laboratory with fume cupboards in front of the window, central benches, an open drain, a Korting vacuum pump, and a hot chamber for drying tissues, which is kept at blood heat; a laboratory for physical measurements, equipped with photometers, thermostats, balances, and a serologic laboratory furnished with large and small centrifuges. The second floor is devoted wholly to experimental work, chiefly to the study of animal tissues, and includes an excellent physiologic laboratory. Above these is the tower, fitted with a laboratory for special light experiments. In the basement is an apartment devoted to electroradiophysics, and a photographic dark room. Another laboratory is occupied with preparatory chemistry, and is fitted with grinding mills, Buchner presses for extracting cell juices, combustion furnaces and an apparatus for producing distilled water. Other features of the basement are the room containing various sterilizers, a large carbon dioxid machine for refrigeration, with a cold store adjoining, a destructor crematorium, a boiler house, an engineer's workshop, and a series of eight vaults devoted to various purposes, such as chemical and spirit storing, and the housing of a large centrifuge of 24 tons' pressure. One of these vaults also forms an underground laboratory for working at an equable temperature.

PARIS LETTER

(From Our Regular Correspondent)

Paris, June 30, 1911.

Measures Against Cholera

The government is now taking precautions against the importation of cholera, numerous cases of which have been reported at various points on the Mediterranean coast. The regions at present officially considered to be infected with cholera are Naples, Palermo and Constantinople. At Palermo the first cases were reported from an asylum for the insane several weeks ago. There are now forty a day in that city. In Naples and some neighboring villages which were attacked last year the number of cases is thirty or forty a day. A telegram from Triest reports that a case of cholera was declared on board a transatlantic liner which touched at Naples before arriving at Triest. An American woman fell sick during the voyage and died.

Funeral Honors Paid by the City of Paris to Dr. Aimé Guinard

On June 17, after twelve hours of great agony, Dr. Guinard succumbed to the wounds which he received at the hands of an assassin, as I mentioned in a previous letter.

He was born at Saint-Etienne in 1856 and received his doctor's degree in 1884. He was appointed surgeon of the hospitals of Paris in 1892 and in 1906 succeeded Dr. Lucas-Championnière at the Hôtel-Dieu. In the "Nouveau Traité de Chirurgie," published under the direction of Drs. Le Dentu and

Paul Delbet, he edited the portion devoted to surgical diseases of the abdomen. At the time of his death Dr. Guinard was about to have been appointed an officer of the Legion of Honor.

The municipal council decided that Dr. Guinard's funeral should be held at the expense of the city of Paris since he was killed while in its service. The funeral ceremony, which was very impressive, was held on June 21. The coffin was placed on a catafalque at the top of the stairway of the court of honor of the Hôtel-Dieu, whose colonnades were decorated with silver-embroidered mourning draperies bearing the arms of the deceased. Addresses were made by various officials of the city government and representatives of medical organizations. The coffin was then placed on a bier and was carried to the cathedral of Nôtre-Dame, where the religious ceremony was held. The body will finally be taken to Saint-Etienne, the birthplace of Dr. Guinard.

The Syndicat des médecins de la Seine, after sending its condolences to Mme. Guinard, decided to open a subscription for the erection of a monument to the dead physician.

The Number of Medical Students in the French Medical Schools

The entire number of medical students in the French *facultés* and *écoles* of medicine was on Jan. 15. 1911, about 8,799, which is an increase of 164 over the corresponding figures of the year 1910. This increase consists almost entirely of foreign students, who have increased by 146 while there are only eighteen more French students.

As in the previous years it is from Russia, which sends 833 students, that two-thirds of the foreign students come; then comes Turkey with eighty-nine, Bulgaria with sixty-eight, Roumania with fifty-five and Greece with twenty-six. The United States was represented by seven students, Central America by thirteen, South America by twenty, Brazil by eight, the Antilles by eleven and Canada by four.

Out of the total of 8,779, 7,652 attended the *facultés de médecine*, 557 the *écoles de plein exercise de médecine* (Marseilles, Nantes and Rennes) and 570 the preparatory medical schools. Of the *facultés*, that of Paris has 4,101; Bordeaux, 732; Lille, 279; Lyons, 968; Montpellier, 659; Nancy, 340; Toulouse, 412; Algiers, 161.

The following are the number of the physicians with state diplomas, which alone give the right to practice in France, who were graduated in 1910 in each of the *facultés:*

Paris	450
Bordeaux	70
Lille	44
Lyon	109
Montpellier	120
Nancy	32
Toulouse	55
Algiers	3

To the total of 883 should be added the thirty-two state diplomas delivered by the Faculté catholique et française of Beirut, Syria.

The Intravenous Injection of Sodium Bicarbonate in Diabetes

In a series of communications recently made to the Société médicale des hôpitaux de Paris, Dr. Marcel Labbé, Professor Lépine of Lyons and others have called attention to the treatment of acidosis or diabetic acetonemia by intravenous injections of sodium bicarbonate, a mode of administration much superior to the ingestion of this drug even in very large doses. Up to the present intravenous injections of sodium bicarbonate have been employed exclusively in coma or in the period directly premonitory of coma, in vertigo, somnolence, etc. In the session of June 16 of the Société médicale des hôpitaux, Dr. Sicard, *agrégé* professor of the Faculté de médecine de Paris, reported results which he obtained with injections used in non-comatose states to combat certain diabetic symptoms which resisted the classic dietetic and medicinal treatment. In three cases, one of obstinate pruritus, another of sciatic pains and a third of light optic neuritis, he obtained marked remissions. Instead of using weak or nearly isotonic solutions of sodium bicarbonate (from 2 to 3 per cent.), Dr. Sicard used much more concentrated solutions. from 8 to 9 per cent., sterilized and given in injections of from 100 to 250 c.c. which represents about 20 gm. of sodium bicarbonate. The injection is given into a vein of the arm according to the ordinary method. It is absolutely necessary to penetrate directly into the interior of the blood-vessel, for the solution is caustic and, if introduced into the cellular tissue, would produce inflammatory reaction. The injection is made in about five to ten minutes without producing any swelling. It may be repeated several times at intervals of a few days without the least danger. It is preferable to the injection of too large quantities of liquid when in the course of coma or precomatose symptoms it is necessary to act quickly without raising the arterial tension too much.

Barium Sulphate Instead of Bismuth in Radioscopy

On June 16, before the Société médicale des hôpitaux de Paris, Drs. Bensaude and Ronneaux proposed to substitute barium sulphate for bismuth for radioscopic examination of the digestive tract. Barium sulphate is not toxic in large doses if it is absolutely pure. It presents, moreover, sufficient opacity to give clear images on the radiograph screen. It is readily taken by patients and may easily be mixed into a liquid which is maintained in suspension. It has, moreover, the great advantage of being a sixth as expensive as bismuth.

Death of Dr. Claudot

Dr. Maurice Claudot, *médecin inspecteur général du cadre de réserve*, has just died at the age of 66.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 22, 1911.

Personal

Professor Trendelenburg of Freiburg, has received a call to Innsbruck as regular professor of physiology.

Professor von Michel, the director of the Berlin eye clinic, and Professor von Esmarch, director of the hygienic institute in Göttingen, a son of the noted surgeon, both retire at the end of the semester on account of their health.

Prof. G. Krönig, who has been since 1894 director of the second internal medicine division of the municipal hospital at Friedrichshain, in Berlin, died June 15, at the age of 55, of pneumonia. He was a pupil of Frerichs and of Gerhardt and had distinguished himself by his valuable works on lumbar puncture and on percussion of the lung apices. In addition he had made a number of practical improvements in the technic of microscopic and clinical examinations. For some years he suffered from an insufficiency of the aortic valves.

Professor Ewald has been elected as a foreign member of the Norwegian Medical Society at Christiania.

Berlin Medical Orchestral Society

Following the example of Vienna a medical musical society has been founded in Berlin. We possess a number of physicians who display more or less marked musical talent. Among them is Professor His, the director of the first medical clinic. The number of members of the society so far amounts to sixty.

Infant Mortality and the Death-Rate

The infant mortality of Germany and of Prussia is frequently placed as unusually high, and proportionally unfavorable conclusions as to the economic status of the population or as to insufficient hygiene are drawn. In truth such conclusions are a little hasty; the birth-rate must be taken into consideration with the high infant mortality. Where women are overtaxed by frequent child-bearing, they can give less care to their children than in cases in which the number of children is small. If the birth-rate and infant mortality are compared in the various nations together with the death-rate with and without the death-rate of infants, the latest figures give the following:

			In Proportion to 1,000 Population		
		Deaths Under One Year, per 100 Born Living.	Number Born Living.	Deaths, Excluding Still Births.	Deaths, Excluding Infants.
German Empire	1908	17.8	32.0	18.0	12.3
Austria	1906	20.2	35.0	22.6	15.5
Hungary	1908	19.9	36.3	24.8	17.4
Russia	1901	27.2	47.9	32.1	19.1
Italy	1907	15.6	31.5	20.7	15.8
Spain	1904	17.3	34.4	25.8	19.8
France	1906	14.3	20.5	19.9	16.9
England and Wales	1908	12.1	26.5	14.7	11.5
Netherlands	1908	12.5	29.7	15.0	11.2
Belgium	1907	13.2	25.3	15.8	12.5
Sweden	1907	7.7	25.5	14.6	12.6
Denmark	1907	10.8	28.3	14.2	11.2
Norway	1907	6.7	25.9	14.0	12.2

It will be seen at once that Germany has in no sense an unusual position in respect to the height of its infant mortality but Austria-Hungary and Russia present a more unfavorable and Spain nearly the same infant mortality. A number of other states appear at first sight to have more favorable conditions, but a special consideration of these is necessary. Italy has a smaller infant mortality with nearly the same birth-rate, but the death-rate is one-sixth and the number of deaths excluding those of infants is a fourth higher. France has a very low birth-rate and a considerably higher mortality, which is explained in part, by the large ratio of the aged. In England attention must be called to the fact that the reports of the deaths of infants are incomplete on account of the six weeks' delay allowed. The Netherlands and the Scandinavian countries have a not inconsiderably smaller infant mortality but the general mortality after exclusion of infants is only a little smaller and even Prussia in some provinces, such as Hanover, Westphalia, Hesse-Nassau and Schleswig-Holstein, shows an infant mortality of from 10 to 15 per 100 born living. Thus the infant mortality was as follows:

	1909	1908
Schleswig-Holstein	13.2	14.9
Hanover	12.1	13.1
Westphalia	13.0	14.4
Hesse-Nassau	10.3	10.8

Finally it should be remarked that the infant mortality in Prussia has undergone a material reduction in the course of time as shown by the following table:

INFANT MORTALITY IN PRUSSIA FROM 1875-1909

Year	Deaths in the First Year, per Hundred Born Living	Year	Deaths in the First Year, per Hundred Born Living
1875-1880	20.6	1903	19.4
1881-1885	20.7	1904	18.5
1886-1890	20.8	1905	19.8
1891-1895	20.5	1906	17.7
1896-1900	20.1	1907	16.8
1901	20.0	1908	17.3
1902	17.2	1909	16.4

Examination of Cattle Imported into Germany

In my letter dated May 6, I reported that the authorities (the *Bundesrat*) had determined no longer to demand a tuberculin test of cattle imported from Denmark, Sweden and Norway. Understanding that the text of this resolution would be of interest to the readers of The Journal, I take the opportunity of copying so much of it as is of general importance.

Section 1. All cattle from Denmark, Sweden and Norway which are imported into a marine quarantine station shall be marked with ear marks, bearing consecutive numbers. On these numbers the quarantine station shall be indicated by the addition of initial letters.

Section 2. All the before-named cattle shall be examined by the veterinary surgeon charged with their inspection, in addition to the examination for other contagious diseases, in order to determine whether they are infected with tuberculosis.

Section 3. The examination for tuberculosis shall be made by clinical and if necessary bacteriologic examination according to instructions prepared by the imperial chancellor, in which an estimate of the fees to be paid by the owner for the examination shall be stated. If the bacteriologic examination requires a longer time than the ordinary period of quarantine, the suspected animals must be kept in quarantine at the expense of the owner until the termination of the investigation, provided that the owner does not prefer to export them again.

Section 4. Cattle in which the presence of tuberculosis or a suspicion of this disease is established by the results of the examination, in the sense of the instructions issued by the imperial chancellor, must be deported. Previously they shall be marked or branded as determined by the imperial chancellor.

Section 5. All the other cattle are to be excluded from free commerce and may only be accepted for slaughter at the latest within four days—reckoned from the admission to the slaughter-house—in public slaughter-houses designated for this purpose under the same conditions as the Austrian and Hungarian cattle and also under the condition that all the regulations for the inspection of meat in respect to tuberculosis, which are enforced in the interior, shall be strictly obeyed and that meat which is found to be distinctly unfit for use or materially impaired in its nutritive value and palatability, shall at the option of the owner either be treated as condemned or after proper labeling shall be exported again. The style of the label shall be determined by the imperial chancellor.

Section 6. These regulations shall be in force July 1, 1911.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, June 20, 1911.

The Codex Alimentarius Austriacus

A few days ago the first volume of the "Codex Alimentarius Austriacus" was published, and thus a very useful and instructive work has been partly completed. Its merits are due in a high degree to the efforts of medical men, who, for many years, have pointed out the necessity of such a weapon against the adulteration of articles of food. This "pure food" codex, so to say, is the result of cooperation by the departments of agriculture and commerce, with associations of merchants and scientific chemists, and with the high board of health, as well as with private individuals, whose opinions were asked and then embodied in the rules laid down in the codex. The contents of this volume are arranged very conveniently, and the work will, no doubt, serve as a model for other codices, the Austrian being the first of its kind. Each chapter, dealing with a special article of food, contains the laws pertaining to the subject under consideration and afterwards the following subdivisions: Description of the article, method of obtaining the necessary sample for examination, examination of the article, the consideration of the result thus obtained, regulation of the commercial use and sale, and the use of the goods found unfit or wanting. The object of these volumes is, among others, to enable the producers and dealers to know the leading principles of the "pure food" requirements, as stipulated by the government. Furthermore, everybody can thus ascertain the precautions necessary when dealing with food stuffs, and the rules laid down therein are guides for the institutes and market police controlling the sale of such articles. The judge too, will find in it a useful guide in all lawsuits arising out of this subject.

The articles dealt with in the published first volume are: wheat and corn, leguminous vegetables, bread and baking products, salt (NaCl), fresh vegetables, mushrooms, fruits, condiments, tea, coffee and its substitutes, cocoa, chocolate, sugar and candy, sweets and sweetmeats, including pastry, beer, wine in all its various kinds, and paraffin. The other articles will be dealt with in two more volumes to be published within this year.

Consultations by Telephone

In the course of a recent lawsuit brought by a doctor against a wealthy patient, the practitioner had claimed also a certain amount for consultations and medical advice given by him over the telephone. The claim was disallowed by the learned judge because the antiquated *Aerzteordnung* (regulation of medical practice), at present in force, contains nothing of that kind. No attention was paid to the fact that, at the time of the compilation of the above-mentioned regulations the telephone was an unknown thing. The incident was taken up by the medical council of Vienna, and in a resolution the practitioners were advised to inform their patients that telephone consultations were in the future to be charged for. Nevertheless, the council advised its members to abstain from treatment at a distance, or without seeing the patient.

The Decreasing Birth-Rate

In this country too, a marked and constant decrease in the birth-rate has been observed during two decades, and various suggestions were thrown out, both as to the reasons for it and the best means for combating the unsatisfactory conditions threatening from it. In 1897 the birth-rate was 38.2 per 1,000 inhabitants; in 1906 it had fallen to 34.1. Nevertheless, the population had increased and is still increasing, owing to the surplus of births over deaths. This is due in a high degree to the improvement in sanitation, with consequent decrease of mortality and morbidity. Among other things, the number of stillborn children had fallen during the above-mentioned ten years from 1.1 per cent. to 1 per cent., and the number of illegitimate children from 144 to 123 per 1,000 births. The most marked decrease of births is noted in the upper classes of the population. The so-called nobility is well known here for its sterility. Among the upper middle classes, the one-child or two-children family is the rule; and among the lower classes, the industrial worker, in spite of marrying early, has fewer children alive than the rural couple who marry late. One of the most active reasons for the lowered birth-rate has been found in the enormous emigration of the young, vigorous, hard-working peasants and laborers, who generally go across the ocean, and of the Jewish part of the population who follow the same track. Another very influential factor is the voluntary prevention of conception and artificial interruption of pregnancy, against which legislation is nearly powerless in spite of all endeavors.

Marriages

William Branch Young, M.D., Falling Spring, W. Va., to Miss Mabel Russell Beckner of Sweet Springs, W. Va., June 28.

William Lloyd Friedman, M.D., Oakland, Cal., to Mrs. Mamie Fletter of Alameda, Cal., at San Jose, Cal., June 29.

Robert Frazier Ashworth, M.D., Birmingham, Ala., to Miss Capitola Vivian Williams of Chattanooga, Tenn., June 28.

Frederick B. Mather, M.D., to Miss Florence K. Skillings, both of Spokane, Wash., at Coeur d'Alene, Idaho, June 6.

William Winton Snead, M.D., Warren, Ky., to Miss Dona Price of Barbourville, Ky., at Corbin, Ky., June 27.

Florence Belle Wyant, M.D., Sharon, Pa., to John Matta of South Sharon, in Cumberland, Md., recently.

Claude Webster Bankes, M.D., Reading, Pa., to Miss Jeanette D. Melot of Fleetwood, Pa., recently.

Jonas Rhodes Longley, M.D., Fond du Lac, Wis., to Miss Juanita Bell Murphy of Marengo, Ia., June 27.

Joel Cutchins Rawls, Crystal River, Fla., to Miss Ella Shipman Guthrie at Lynchburg, Va., June 28.

Gustav A. Hinnen, M.D., Mt. Auburn, Cincinnati, to Miss Martha Sprenger of New York City, June 30.

David Joseph Johnson, M.D., Roxbury, Boston, to Miss Anna J. O'Neil of New York City, June 28.

Robert Rochester Hansen, M.D., Marshalltown, Iowa, to Miss Harriet Peterson of Chicago, June 28.

Arthur Jones Fletcher, M.D., Homer, Ill., to Miss Rose Vorhees Crawford of Danville, Ill., June 17.

John Charles Benson, M.D., Flint, Mich., to Miss Katharine Eleanor Brennan of Detroit, June 28.

Paul H. Dernehl, M.D., Milwaukee, to Miss Edith Ziegler of Baltimore, at Hayward, Wis., July 3.

Clyde W. Hodges, M.D., Hamilton, Ohio, to Miss Jessie Noland of Crawfordsville, Ind., June 28.

Alfred W. Traverse, M.D., to Miss Anna Talaska, both of Milwaukee, at St. Joseph, Mich., recently.

William H. Howard, M.D., Hampton, Va., to Miss Annie L. Wright at Bowling Green, Va., June 28.

Eugene Wahl, M.D., to Mrs. Marie Wayne, both of Edwardsville, Ill., in St. Louis, June 1.

Carlos W. Shotwell, M.D., Detroit, Mich., to Miss Irene Melinda Edy of London, Ont., June 27.

Emanuel Theodore Urban, M.D., to Miss Adeline Elizabeth MacKenzie, both of St. Louis, June 7.

Arthur L. Peacock, M.D., Lynn, Ark., to Miss Maggie McCleod of Smithville, Ark., June 25.

Charles Alvin Portz, M.D., Baltic, Ohio, to Miss Florence M. Bidwell of Canton, Ohio, June 14.

Harry W. Uffelman, M.D., Windsor, Pa., to Miss Mary Baughman at Red Lion, Pa., June 28.

Carlton N. Etchison, M.D., to Miss Rachel Dave Young, both of Gaithersburg, Md., June 15.

Arthur J. Wagers, M.D., St. Louis, to Miss Marguerite M. Devin of Buffalo, N. Y., June 21.

Charles Sumner Neer, M.D., Vinita, Okla., to Miss Pearl Brooks of Springfield, Mo., June 28.

Charles Norton Hensel, M.D., to Miss Rae Lillian Goodnow, both of Minneapolis, June 21.

Dean Ely Godwin, M.D., to Miss Myrtle Elizabeth White, both of Coldwater, Mich., June 28.

William L. Hartsell, M.D., Draughon, Ark., to Miss Delia Plunkett of Rogers, Ark., June 19.

Arthur E. Hoag, M.D., Carrollton, Ill., to Miss Bertha N. Moorshead of St. Louis, June 28.

Francis J. Stirn, M.D., Cudahy, Wis., to Miss Clara Lochemes of Milwaukee, June 28.

Henry Graber, M.D., Royersford, Pa., to Miss Arvilla Whiteman of Philadelphia, June 10.

William Leo Egloff, M.D., Elkhart, Wis., to Miss Luella Heyer of Milwaukee, June 21.

Joseph E. Higgins, M.D., to Miss Helen Jenneman, both of Grand Island, Neb., June 28.

G. Edmund Mauk, M.D., to Miss Ethel Virginia Swift, both of Woodland, Pa., June 21.

Royal Lacy Eddington, M.D., to Miss E. Murtell Mead, both of Fairfield, Ill., June 15.

Curtis Thompson, M.D., to Miss Pearl McCarthy, both of Carbondale, Ill., June 23.

Franklin P. Russell, M.D., to Mrs. Elma Green, both of Alliance, Ohio, June 21.

J. Henry Allen, M.D., Chicago, to Miss Pearl McCain of Rockfield, Ind., June 14.

Omar A. Kell, M.D., Salem, Ill., to Miss Cecil Maxey of Centralia, Ill., June 22.

Olaf J. Hagen, M.D., to Miss Mozelle Weld, both of Moorhead, Minn., June 24.

Rolla Harrison Henry, M.D., to Miss Freda Eberlein, both of St. Louis, June 29.

Lee Ryan, M.D., Downey, Cal., to Miss Josephine Lane of Los Angeles, June 12.

Carl Williamson, M.D., Chicago, to Miss Marie Tate of Homer, Ill., June 16.

Pierre J. Tischart, M.D., to Miss Rose Marie Binette, both of Chicago, June 27.

Donald Buie Garstang, M.D., to Miss Mary Ladd, both of St. Louis, June 14.

Paul Vinyard, M.D., to Miss Edna Waldo Linens, both of St. Louis, June 26.

Heliodor Schiller, M.D., to Miss Corinne Hart, both of Chicago, June 29.

Almer M. Aanes, M.D., to Miss Nora Nelson, both of Boyd, Minn., June 29.

Edward C. Loew, M.D., to Miss Irene Freund, both of St. Louis, June 14.

Deaths

J. Elvin Courtney, M.D. Medical College of Virginia, Richmond, 1883; a member of the American Medical Association; formerly first assistant physician at the Hudson River State Hospital, Poughkeepsie, and a member of the staff of that institution for eleven years, and a practitioner of Denver, where he established the Mount Airy Sanitarium for Nervous and Mental Diseases; lecturer on neurology in the medical department of Denver University, and alienist and neurologist to St. Anthony's Hospital; died at his home in Denver, June 23, from pleurisy.

William T. Maupin, M.D. Jefferson Medical College, 1864; a member and once vice-president of the Medical Society of the State of California; for several years president of the Fresno (Cal.) Medical Society and a charter member of the San Joaquin District Medical Association; once health officer of Fresno; surgeon in the Confederate Service during the Civil War; for several years division surgeon for the Southern Pacific and a member of the Association of Railway Surgeons of the Pacific Coast; died at his home in Fresno, June 19, aged 72.

John Quincy Adams McCollester, M.D. Jefferson Medical College, 1856; a member of the Massachusetts Medical Society; surgeon of the Fifty-Third Massachusetts Volunteer Infantry during the Civil War; for several years local pension examining surgeon and a member of the staff of the Boston Quarantine Hospital; who was given the honorary degree of LL.D. by Norwich (Vt.) University in 1900; for forty-seven years a justice of the peace; died at his home in Waltham, June 23, aged 80.

Weston H. Rice, M.D. University of Vermont, Burlington, 1905; a member of the American Medical Association and local surgeon at Oakland, Cal., for the Southern Pacific Railroad; died in the Receiving Hospital, Oakland, June 27, from the effects of a collision between his automobile and an electric train a few moments before, aged 37.

Edward Peabody Geary, M.D. Harvard Medical School, 1874; a member of the Massachusetts Medical Society; for several years president of the Norfolk District Medical Society and vice-president of the Boston City Hospital Club, and alderman of Jamaica Plain in 1900 and 1901; died in Phillipston, Mass., June 21, aged 64.

Greer M. Nickell, M.D. College of Physicians and Surgeons, Baltimore, 1881; proprietor of the Millboro Sanitarium, Millboro, Va.; died at his home in Millboro, June 27, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, while suffering from ill health, aged 60.

Charles A. Bleiler, M.D. Jefferson Medical College, 1885; a member of the Medical Society of the State of Pennsylvania; at one time coroner of Schuylkill County; a prominent practitioner and citizen of Frackville and for two terms a school director; died at his home, June 28, from nephritis, aged 51.

John Brevard Alexander, M.D. Medical College of the State of South Carolina, 1855; one of the oldest practitioners of Mecklenburg County, N. C.; surgeon in the Confederate service during the Civil War; in 1896 a member of the state senate; died at his home in Charlotte, June 24, from paralysis, aged 77.

Julian William Baird, M.D. Harvard Medical School, 1890; a member of the American Medical Association; professor of analytic and organic chemistry of the Massachusetts College of Pharmacy, Boston, and dean of that institution since 1897; died at his home in Boston, June 26, aged 52.

John Franklin Whitmyer, M.D. College of Physicians and Surgeons, New York City, 1890; chief medical inspector of the Health Department of New York City, for twenty-two years an official of the department; died at his home, June 23, from heart disease, aged 47.

Robert W. Taylor, M.D. Jefferson Medical College, 1864; since 1881 a practitioner of Louisville, Ky., and prominent in Sunday school and mission work; died suddenly at his home in Knoxville, Pa., June 30, from injuries received in an automobile accident.

William Dandridge Sale, M.D. Medical College of Virginia, Richmond, 1864; a member of the Medical Society of Virginia and surgeon in the Confederate service during the Civil War; died at his home in Loretto, June 23, from heart disease, aged 72.

Thomas S. Mitchell, M.D. Atlanta (Ga.) Medical College, 1866; assistant surgeon in the Confederate service during the Civil War; formerly surgeon of the Central Railway of Georgia; died at his home in Pensacola, Fla., June 20, aged 75.

Stephen Dumas Colbert, M.D. Southern Medical College, Atlanta; for several years chief surgeon of the Houston and Texas Central Railway Company at Copefield, Tex.; died at his home in Griffin, Ga., June 24, from gastritis, aged 42.

William A. Blount, M.D. New York University, New York City, 1860; a member of the Medical Society of the State of North Carolina; died at his home in Washington, N. C., June 22, from heart disease, aged 72.

John W. Straughn, M.D. Medical College of Indiana, Indianapolis, 1881; for fifty-five years a practitioner of Parkersburg, Ind.; died at his home in Waveland, Ind., June 20, from cerebral hemorrhage, aged 79.

John M. Phipps, M.D. Medical College of Virginia, Richmond, 1887; a member of the Medical Society of Virginia; died at his home in Rural Retreat, June 17, from cerebral hemorrhage, aged 45.

William R. Cosgrove, M.D. College of Physicians and Surgeons, Baltimore, 1880; of Derry, Pa.; died in Mercy Hospital, Pittsburg, June 22, from disease of the liver, aged 54.

T. N. Berlin (license, Washington); for more than forty years a practitioner of Minnesota and Washington; died at his home in Kent, Wash., June 16, aged 88.

Benjamin L. Ryder (registration, Franklin County, Pa., 1881); for forty years a practitioner of medicine; died at his home in Chambersburg, June 22, aged 79.

Frank Leroy McGee, M.D. Kentucky School of Medicine, Louisville, 1893; died at his home in Charleston, W. Va., June 27, from cerebral hemorrhage, aged 56.

John T. Gray, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1894; died at his home in Griffin, Ga., June 27 from cerebral hemorrhage, aged 60.

John A. Southworth, M.D. University of Nashville (Tenn.) 1869; formerly of Corsicana, Texas; died at his home in Texas City, Texas, June 15, aged 63.

George L. Jackson, M.D. Jefferson Medical College, 1884; of Miami, Tex.; died in a hospital at Amarillo, Tex., June 22, from pellagra, aged 47.

Abner C. Matthews, M.D. University of Vermont, Burlington, 1894; was found dead from heart disease in his office in Earlville, N. Y., June 27.

Samuel Frisbie, M.D. University of Alabama, Mobile, 1861; formerly of Bladen Springs, Ala.; died at his home in Jackson, Ala., June 20.

J. M. Kerr, M.D. Starling Medical College, Columbus, O., 1894; died at his home in Columbus, June 26, from cancer, aged 47.

Merritt Matteson, M.D. Cleveland University of Medicine and Surgery, 1861; died at his home at Morris, N. Y., June 18, aged 75.

William White (license W. Va., years of practice); died at his home in Joy, W. Va., June 23, from senile debility, aged 82.

Miscellany

Disinfection in the Middle Ages.—During the long period of the Middle Ages the alchemists did little to advance our knowledge of this subject; they collected a few facts, and described, with more or less accuracy, the properties of some of the more important chemical compounds; but one may search in vain for a correct account of any example of preventive medicine. Notwithstanding the ravages of the cholera, the plague, and other epidemics, as well as the frequency of leprosy, the idea of contagion was only imperfectly understood, and the common people were far less cleanly in their habits than the Jews, for example, or heathen nations, who mingled primitive sanitary precautions with their religio services. Perhaps one of the earliest papers of any importan which we have is a "Mémoire sur les substances septiques antiseptiques," written by Pringle in the middle of t eighteenth century. In this memoir some forty-eight expe ments are described, in which the author took pieces of fre meat and placed them in contact with various amounts substances which he believed to have an antiseptic actio Among the substances tried we find common salt, s ammoniac, acetates of ammonia and potash, niter, bora camphor, aloes and succinic acid. These experiments, whi were conducted in a very systematic manner, are even now n without some value. By taking as a standard the antisept action of 60 grains of salt on 2 grains of meat in 2 ounc of water, he was able to show that the other substanc enumerated above had a greater antiseptic power than th standard, and thus succeeded in arriving at their relati antiseptic value. Even the pioneers of modern chemistry a the beginning of the present century, did little toward pr moting our knowledge of disinfectants, and it was not unt the biologists showed that decay was due to the action living organisms which float in the air, that fresh attentio was directed to the subject. Francesco Redi, by protectin meat from flies with wire gauze, showed that the maggot which infect decaying flesh were produced from the eggs of th flies. Subsequently the formation of molds on the surfac of jams, or other organic substances, was similarly shown t be determined by microorganisms floating in the air. It wa further noticed that filtration of air through cotton wool wa effectual, not only in removing the dust, but also in preventin the ingress of microorganisms. The gradual accumulation o such facts as these by the biologists led the chemists to realiz that the removal of the odor was not, after all, the only wor necessary, and thus fumigation with nitrous acid, hydrochloric acid, chlorin and other pungent bodies which had bee recommended, fell gradually into disfavor.—Dreyfus in *Jour Am. Pub. Health Assn.*

Poisoning by "Purgen" (Phenolphthalein).—It is unfortunate that the disadvantages of new remedies are apt to remai unknown for a considerable length of time after their introduction. The introduction of phenolphthalein under the form of a proprietary was accompanied by a singular reversal of the usual caution concerning dosage. Ordinarily it is supposed that a remedy, especially one producing irritative effects on the intestines, will be better borne by the robust individual who is not obliged to keep his bed, than by the person reduced and bedridden by serious disease. In the case of "purgen" however, this principle of dosage was reversed and three sorts of tablets were put out, one for children; one for adults and one for those who were confined to bed. The last tablet was the strongest of the three, and patients were advised in case of need to take even three of these stronger tablets. This plan of giving the stronger dose to the weaker patient was the occasion of a case of poisoning by this nostrum which, as has long been known, contains as its active constituent, phenolphthalein, or as it appears in the somewhat recondite and complex nomenclature of the manufacturer "1,8, dihydroxyphthalophenon." This case is reported by Dr. Erich Zabel of Rostock in the *Deutsche medizinische Wochenschrift*, April 20, 1911. For a man of 67, convalescent from erysipelas, one of the tablets for bedridden patients was prescribed. The patient took three instead of one and, as his bowels did not move, took in addition two of the ordinary adult tablets. These had no effect on the bowel movements. A sudden check to convalescence with a distinct aggravation of the general condition took place. Very unpleasant and severe abdominal pain began accompanied by occasional vomiting; the pulse became rapid, small and soft, the extremities pale; fainting fits occurred with a subjective feeling of weakness; objectively there was marked prostration which suggested a possible intestinal hemorrhage. After about a week the action of the bowels, which had been interrupted, began again with the evacuation of very peculiar stools. On the tenth day after taking the "purgen," Dr. Zabel was called and found the patient very much prostrated. He had recently passed a large amount of fluid from the bowels, which closely resembled bloody urine. These bloody-appearing stools were passed for several days, the last being on the nineteenth day after taking the "purgen." The patient then began to improve and rapidly recovered. Examination of the stool passed showed the absence of blood-coloring matter. The material which passed the bowel was examined by Professor Kobert, who reported that it was a material similar to a decomposition product of the chromogen principle of the purgatives belonging to the oxymethylanthraquinone group. This unusual action of the remedy is to be attributed to two factors: 1. The large dose, which, however, was not much larger than that recommended by the proprietors of "purgen." 2. The long stay of the remedy in the intestine, during which it would seem that it must have undergone some decomposition which increased its irritating qualities. The lesson drawn by Zabel from this incident is the necessity of caution in the application of remedies whose actions are not well understood. He suggests that there is danger in neglecting the old and well-tried remedies for modern nostrums with suggestive names and attractive appearance. See also Heubner's comment, p. 257, this issue.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

THACHER'S WORM SYRUP

A Dangerous Santonin Mixture

Dr. Thacher's Worm Syrup is put on the market by the Thacher Medicine Co., Chattanooga, Tenn., under the following claims:

> "Dr. Thacher's Worm Syrup is scientifically prepared from materials which are known to have a sure and safe effect on the child and to leave it in a healthy condition."

It is said to "act on the liver and bowels" and to "relieve all pain." The instructions that appear on the label direct "no oil or physic to be taken after the dose." Dr. M. A. Watkins of Woodward, Ala., reports a case of poisoning in a 5-year-old child from the use of this nostrum. The child, a girl, having complained of pain in the abdomen was given a dose of castor oil. The following day, after an indiscretion in diet with a return of the pain, another dose of oil was given and at the same time a teaspoonful dose of Dr. Thacher's Worm Syrup. On the third day three more teaspoonful doses of the Worm Syrup were given at three-hour intervals. By this time, the child was drowsy and listless, and unable to urinate. On the morning of the fourth day, the child became unconscious and the physician was summoned. The following clinical picture was found:

> "Patient was in profound coma; pupil and knee reflexes were abolished; pupils were slightly dilated, but even. Mouth was dry and parched; tongue furrowed and dry; breath fetid and slightly sweet; the patient was restless and vomited frequently. Respiration 24; rectal temperature 101.6 F.; pulse 176 and thready. An examination of the blood gave the following results:
>
> | | |
> |---|---|
> | Leukocytes | 15,000 |
> | Plasmodium | negative |
> | Agglutination test, typhoid | positive |
> | Blood-pressure | 125 |
>
> The patient was catheterized and 6 drams of urine obtained. Examination showed large quantities of sugar and albumin, casts and epithelial cells."

A diagnosis of santonin poisoning was made and treatment immediately instituted. While a slight temporary improvement was noted, the patient gradually weakened and died six days after the ingestion of the first dose of the "worm syrup."

Unbroken packages of Thacher's Worm Syrup were obtained, and examined in the Association's laboratory to determine whether there was santonin in the product, and if so, in what quantity. The preparation comes in bottles containing a little more than 1½ fluid ounce (47 c.c.). It is a thick, dark-brown syrup having the odor of cloves and anise and a sweet, anise-like flavor. The preparation contains a noticeable amount of small, grayish crystals in suspension. These crystals were found by qualitative tests to be nearly pure santonin. Alkaloids were absent. The quantitative examination indicated that the preparation contains about 1.14 gm. (18 grains) of santonin in each 100 c.c. (3⅓ fluid ounces), the greater proportion of this drug being in suspension. This means that each teaspoonful dose of the nostrum contains about ⅔ of a grain of santonin.

A number of cases of fatal poisoning are reported in the literature on santonin. In reporting a case of total blindness produced by santonin in a 5-year-old girl, Baxter has recently stated that no children under 2 years of age should ever be given santonin and, that even when given to older children, serious complications are liable to be produced. This is especially the case when it is given with castor oil, which increases its solubility.

It is evident, therefore, that a nostrum such as Thacher's Worm Syrup, which contains santonin in poisonous quantities, has no place among domestic remedies. The manufacturers of this preparation will probably protest that in the case of Dr. Watkin's patient the parents deliberately went counter to the instructions by administering castor oil in conjunction with the "worm syrup." Such an excuse is not a valid one because discrimination cannot be expected from the public in the self-administration of "patent medicines."

There is nothing about the package or on the label to denote that Thacher's Worm Syrup contains a dangerous poison. On the contrary the nostrum is said to have a "safe effect on the child and to leave it in a healthy condition." Furthermore it is suggested that it can be "spread on bread or cake." In view of these things, it is absurd to suppose that the average mother would consider that there was anything harmful in Thacher's Worm Syrup and, being likewise convinced of the harmlessness of castor oil, it is not surprising that these two drugs should be given at the same time.

Even when given under the supervision of a physician, dangerous by-effects have been noticed from the administration of santonin. Total blindness and even death have followed the use of this drug in children. That it should be placed on the market with no warning as to its toxicity and sold as "safe" medicine for children is little less than criminal.

Correspondence

The University Medical School of Canton

To the Editor:—The University Medical School of Canton has been a name for six years, and now that it has become a reality it seems only right that our friends in the medical profession should know something about it. The school is under the management of the Board of Directors of the Christian Association of the University of Pennsylvania, and is affiliated with the Canton Christian College, being located on adjoining property. The purpose of the school is threefold:

1. To transform and mold the character of Chinese youth by leading them to a knowledge of Jesus Christ.
2. To give in the English or Chinese language a course in western medicine modeled after that of the best schools in America.
3. To cooperate with the Christian Association of the University of Pennsylvania in its work with the undergraduate body in Philadelphia.

Until the present year the University Medical School has had no buildings of its own, but has rented from the Christian College. The permanent hospital is now, however, being built. It is of brick and reenforced concrete, and for good workmanship and solidity in construction it cannot be excelled by any building in all China. Only the first section is now being erected, at a cost of $16,000, to be finished Sept. 1, 1911. It is estimated that the entire building will be 500 feet in length and will cost not less than $100,000.

The hospital is to be equipped according to the latest ideas of modern hospital construction.

In February, 1910, several students of the Canton Christian College asked us to start a class in medicine. This we finally agreed to do, and at the present time there are five students who have completed one and one-half years' study. During this time they have covered osteology, histology, physical diagnosis and an elementary course in physics. They are still studying anatomy, physiology, therapeutics, etc.

There are now four physicians in charge of the medical school—three American and one Chinese—all graduates of the University of Pennsylvania. In addition to these, there is a secretary and a trained nurse and a number of Chinese helpers.

During the past winter plans have been made for widening the scope of the school by inviting the missions represented in Canton to contribute the services of at least four physicians, thus making it a union school. There has been hearty endorsement of this plan, and it is now hoped that by next March this union school will be started with instruction given in the Chinese language. The plan is to have classes admitted every year to be taught in Chinese, and to admit classes taught in English when sufficient students apply.

The opportunity for original research in a tropical city like Canton is unlimited. The school aims, also, to give opportunities in this direction. The first postgraduate course was held this year when Dr. H. S. Houghton of Wuhu, at the invitation of the school, gave a most instructive course in parasitology and examination of the blood. Thirteen physicians, representing nine different missions, were in attendance—some coming from a distance of 300 miles. The course was held daily for two weeks in February, during the Chinese New Year season, classes beginning at 9:30 a. m. and lasting until 4 p. m. with one and one-half hours' intermission at noon.

Next year it is planned to hold another course, taking up ophthalmology and some other subjects.

As we look back to the beginnings of our great medical schools in the United States, we recall that they owe their origin to physicians trained in Europe who devoted their lives to developing the art of medicine in the American colonies. Can we, who have reaped what they have sowed, do better than follow their example, and help the men in this great land of China to realize their ideals of establishing schools of medicine modeled after the institutions of Europe and America?

WILLIAM W. CADBURY, Canton, China.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

GENERALIZED VACCINIA

To the Editor:—I wish to report a case of generalized vaccinia occurring in a series of eighty-two vaccinations. The patient, T. D., aged 10 years, height 4 feet 8½ inches, pulse 96, respiration 24, temperature 99.9 F., skin dry and harsh, no vaccination scar, although he had been previously vaccinated, presented the symptoms of incipient tuberculosis in the right apex of the lung. He was vaccinated April 24, 1911, at the same time the physical examination was made. About a week later, he states, his arm began to itch and pain him and he scratched it. Following this the arm became swollen from the elbow to the axilla and a few days later vesicles formed which changed later to pustules; these dried up, forming thick brown crusts. The eruption, although discrete, was very profuse over the extremities and back, the chest on its anterior surface having only a few scattered spots. The face also escaped with only three or four points of eruption. About the site of vaccination the pustules were confluent, nearly half of the anterior surface of the arm being occupied by a large, dry crust. The last examination was made June 10, 1911, and the crusts had nearly all fallen off at that time. The question which occurred to me was, Why should one child in eighty-two have a generalized eruption and the others escape? Was it due to the tuberculous condition, to the vaccine or to some personal idiosyncrasy?

C. W. LANE, Fort Spokane, Wash.

ANSWER.—Assuming that the eruption in the case described was that of a generalized vaccinia, an assumption that is not entirely conclusive from the portrayal of the symptoms, the following could be stated: The fact that the child scratched the site of vaccination might readily account for the swollen condition of the arm and for the development of secondary vaccine vesicles in the immediate neighborhood of the primary insertion. Such a complication is by no means rare. The generalized outbreak might have been a true generalized vaccinia of hematogenous origin, or the child might have scratched various parts of the body and produced a generalized vaccinia by auto-inoculation. In true generalized vaccinia, the eruption usually appears from the fourth to the tenth day after vaccination, but most often from the sixth to the ninth day. Spontaneous generalized vaccinia is an extremely rare condition, and many cases reported as such have doubtless been auto-inoculative cases.

As to the intimate cause of true generalized vaccinia, we know but little. It is possible that it might be due to an abnormal susceptibility to the vaccine infection. There is no evidence at hand to suggest that tuberculosis would in any way predispose to generalized vaccinia, unless it be that the skin of the tuberculous is more sensitive to toxins in general, as Sorgo recently suggested (THE JOURNAL, July 8, 1911, page 173).

THE PRACTICE OF OPHTHALMOLOGY

To the Editor:—Please inform me what books contain adequate information from the standpoint of the ophthalmologist for the acquiring of the necessary knowledge to be able to examine eyes and correct errors of refraction satisfactorily. How far is it necessary to carry the mathematical work in optics? Are analytic geometry and calculus absolutely necessary to a practical understanding of physical optics as applied to ophthalmology? Why can't an optometrist refract correctly?

R. F.

ANSWER.—There are many works on the market whose contents properly digested, would enable one to make a thorough examination of the eye, including its refraction. First of all the uninstructed student should study one of the shorter and simpler manuals, like May's "Diseases of the Eye," or Wood and Woodruff's "Commoner Diseases of the Eye," following it by a larger text-book such as that of deSchweinitz, Weeks or Duane's translation of Fuchs. For all practical purposes only a knowledge of the fundamental principles of physiologic optics is *necessary* for the practice of ophthalmology but an acquaintance with the geometry and algebra involved in a study of works like Landolt and Donders on the refraction and accommodation of the eye are highly *desirable*. If the capacity to do the mechanical work of determining human refraction were all that is demanded in "fitting glasses" almost anybody might learn how to do it in a comparatively short time but, as a matter of fact, this result is a minor consideration in the practice of ophthalmology. What the public generally asks for is relief from certain ocular symptoms thought to come from needed glasses, but inasmuch as any or all of these may, partly or wholly, arise, not from abnormal refraction but from disease of the eye itself, from the nose, brain, frontal sinus and other organs, and since only a well-trained physician has the ability to determine which of these organs is at fault, it must readily be seen that the optometrist (who has had no medical training) could not possibly be expected to decide the matter. Moreover, he is not even competent to say whether, for example, the headache or the dim sight the patient may complain of is due to a refractive error, a glaucoma, a brain tumor or to diseased kidneys. Then, again, a considerable training by expert instructors in the use of the ophthalmoscope and other instruments of precision for at least a year is needed to enable the student to recognize the nature and meaning of changes in the interior of the eye —an essential part of the duties of the ophthalmologist. In other words, the practice of the "optometrist" is a part of the practice of medicine and no amount of juggling with words will change that fact; to be a good optometrist is to be a trained physician and an ophthalmologist.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 1, 1911.

Lambie, John S., first lieut., granted leave of absence for two months and fifteen days, about July 1, 1911.

Palmer, Fred W., captain, granted leave of absence for two months, to take effect on arrival in the United States.

Edie, Guy L., lieut.-col., granted leave of absence for one month with permission to go beyond the sea. Lieutenant-Colonel Edie on expiration of leave of absence proceed to San Francisco, Cal., and report for assignment to duty pending the departure of transport sailing from San Francisco for Manila, P. I., Oct. 5, 1911.

Davis, William B., colonel, now at Baltimore, will proceed to Fort Washington, Md., for duty. Orders to Fort Leavenworth, Kan., revoked.

Holmes, R. W., lieut., granted ten days' leave of absence.

Ingalls, R. E., dental surgeon, ordered to proceed to Fort Apache, Ariz., on completion of duty at Fort Huchuca, Ariz.

Griffis, Frank C., M.R.C., relieved from temporary duty at Fort MacKenzie, Wyo., and ordered to return to Fort D. A. Russell, Wyo.

Hall, James F., captain, will stand relieved from temporary duty at Fort D. A. Russell, Wyo., on the return of First Lieutenant Griffis, M.R.C., and return to Fort Riley, Kan., for temporary duty.

Holmes, R. W., lieut., granted ten days' leave of absence.

Marshall, John S., first lieut., dental surgeon, relieved from active service.

Richard, Charles, colonel, ordered to sail from the Philippine Islands to the United States, July 15, instead of Sept. 15, 1911.

Marshall, John S., dental surgeon, left Columbus Barracks, Ohio, en route to Berkeley, Cal. Relieved from active service June 17, 1911.

Worthington, Joseph A., lieut., will stand relieved from temporary duty at Presidio of Monterey and return to Presidio of San Francisco, Cal., July 1, 1911.

Boak, S. D., dental surgeon, left Army General Hospital, San Francisco, Cal., en route to West Point, N. Y., for duty.

Brechemin, Louis, Jr., major, left Fort Lincoln, N. D., en route to Devils Lake, N. D., with 1st Battalion, 14th Infantry.

Billingslea, C. C., captain, ordered to proceed from Army General Hospital, San Francisco, with insane patients to Washington, D. C.

Bispham, William N., major, granted leave of absence for one month, about Aug. 15, 1911.

Medical Corps, U. S. Navy

Changes during the week ended July 8, 1911.

Holcomb, R. C., surgeon, detached from the *North Dakota* and ordered to the *Delaware*.

Pleadwell, F. L., surgeon, detached from the *Delaware* and ordered to the *North Dakota*.

Garrison, H. A., P. A. surgeon, detached from the naval hospital, Norfolk, Va., and ordered to the naval hospital, Las Animas, Colo., for treatment.

Cottle, G. F., asst.-surgeon, detached from the naval station, Tutuila, Samoa, and ordered to the *Annapolis*.

Connor, W. H., asst.-surgeon, detached from the *Annapolis* and ordered to the *Princeton*.

Simons, M. H., medical director, transferred to the retired list from July 11, 1911.

Ledbetter, R. E., surgeon, ordered to temporary duty in the bureau of medicine and surgery, Navy Department.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended July 5, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absence from June 24, 1911, on account of sickness.

Cumming, Hugh S., surgeon, granted seven days' leave of absence from June 20, 1911.

Grimm, R. M., asst.-surgeon, granted seven days' leave of absence under paragraph 191, Service Regulations.

Porter, J. Y., quarantine inspector, directed, at such time as necessity indicates, to make the annual inspection of the quarantine stations in the State of Florida.

Barclay, James, A. A. surgeon, granted fifteen days' leave of absence from June 19, 1911.

Gleason, C. M., A. A. surgeon, granted twenty days' leave of absence from July 1, 1911.

Horsey, J. L., A. A. surgeon, granted fourteen days' leave of absence from July 8, 1911.

Ransom, Stacy A., A. A. surgeon, leave of absence, without pay, for six months from May 1, 1911, amended to read "extension of annual leave on account of sickness for thirty days beginning May 1, 1911, and six months' leave, without pay, from June 1, 1911."

Schuster, B. L., A. A. surgeon, granted fourteen days' leave of absence from July 5, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE NEW A. P. A.

Evidently the desperate effort on the part of the proprietary interests to intimidate the newspapers by threats and to beguile them by alluring promises of fat advertising contracts, has not been as successful as was evidently hoped. The Columbus (Ohio) *News* comments interestingly on this letter:

A FEW TEMPERATE UTTERANCES OF A NEW A. P. A.

We have received through the mail a copy of a circular addressed to "Dear Mr. Editor," by a new A. P. A., which appears to have headquarters in a lock box at the New York post-office.

This organization has no connection with its forerunner of similar designation. It is not engaged in "protecting" anyone, nor does it concern itself with the manner in which a man finds his way to heaven. But in one respect it is certainly reminiscent of that association which for a year or two made times lively for every politician, big and little.

It is a firm believer in the exaggerated form of address and the superlative degree of denunciation.

The letters A. P. A. in a shield, which appear directly under the number of the New York lock box, which is the headquarters of the organization, stand for Advertisers' Protective Association.

One might expect, not perhaps without reason, that a more pretentious address might have been found for a national association of such importance, but let that go, and consider arguments and admonitions rather than addresses.

First, let it be understood that the circular contains an earnest appeal on behalf of the persecuted "patent medicine" vender, then get this one, hot from the bat:

> The bureau of chemistry, as at present conducted, is a standing menace to every man's business.

That is no Texas leaguer, but a sizzler scorching up the grass a few inches inside the foul line, and hitting the pickle sign out in the left field with a dull sickening thud.

Or consider this, which has the true A. P. A. ring to it as it leaves the bat:

> Let Dr. Wiley conceive the opinion that any man's product is injurious, he first destroys the business by attacking it through the newspapers and by "bulletins" issued from his department, at public expense, and after everything possible has been done to ruin the business, he then proceeds to attempt to prove his case in the courts. No doubt he hopes to create public opinion favorable to his contention before trying the case, but the important cases so far tried prove that in this he has failed, though he has not failed to do inestimable damage to the business interests so unjustly attacked. It has been asked: "What was Wiley's motive in attacking these industries?" And the answer is usually found in looking for the beneficiaries. In the whisky case, the Kentucky distillers "could a tale unfold." In the benzoate of soda matter, Heinze's "57 Varieties" led the fight. In the matter of Coca-Cola, the manufacturers of "Caffeinless Coffee" were seen hovering in the distance, and in the fight on proprietary medicines the American Medical Association, better known as the "Doctors' Trust," furnishes the sinews of war.

"Doctors' Trust is good, as is also the announcement that Dr. Wiley gets his "stuff" printed by using a big news association.

But there is a touch of pathos at last. Study the scientific bunt in the seventh inning:

> If this condition of affairs is not changed, it will result in greatly cutting down the support you receive from the manufacturers of almost numberless foods, beverages and proprietary or "patent medicines," and the question presents itself: Will you and your influential paper stand for such a condition?

Alas and alack, dear A. P. A. friend, we fear we shall have to stand for this condition. In view of the fact that we have done all in our power to bring about such a condition, and intend to do all we can to continue it, we incline to the belief that we shall have to stand it.

Another communication to editors has still further unmasked the plans of the organization represented by "Lock

Box 2124," as shown by a second comment from the editor of the *News* in a recent issue.

LOCK BOX 2124 IS HEARD FROM ONCE MORE

Lock Box 2124, New York, the headquarters of the A. P. A., has been heard from again.

This time a few words are addressed to "Dear Mr. Editor," informing him of the plans of the organization with the post-office headquarters. Lock Box 2124 intends to "get" Dr. Wiley, even if it has to upset presidential plans, break party slates and make quite a fuss generally. Here is part of the notice which is served on all and sundry, Dr. Wiley included:

> When Taft succeeded Roosevelt as President it was hoped that Dr. Wiley's misguided efforts would be restricted, but it appears that the doctor is so intrenched in his position that only a change of administration can effect his removal. If President Taft will not remove Professor Wiley it looks as though it was up to the business interests of the country to bring proper pressure to bear for his removal.
>
> The purpose of this *organization is to inaugurate a movement for* Dr. Wiley's removal, and to obtain the enforcement of the food and drugs act *along reasonable and just lines. If Dr. Wiley is not* removed before Jan. 1, 1912, it will be the endeavor of this organi*zation to obtain a pledge from the next Republican nominee,* as well as the Democratic nominee, for the removal of Dr. Wiley *before said nominee can obtain the support of this organization.*

It is as well to be warned in time, so that carefully prepared plans may not miscarry.

As a friend and neighbor we advise Governor Harmon to drop a line to Lock Box 2124 at once. There are others more impetuous who have a desire to serve the nation, and if they get to the lock box first and pledge themselves, what chance would a candidate have whose only recommendations were experience in government, marked ability and absolute honesty?

The mental condition of those whom the gods are about to destroy has been recognized from the times of ancient Greece. *As the Outlook recently said, any business which out* of total receipts of $400,000,000 can afford to spend $100,000,000, or one-quarter of its entire receipts, each year in advertising, will evidently bear investigation.

Newspaper editors and publishers are only human and it would not be strange if the prospective expenditure of this enormous sum of money would have considerable influence so long as the newspaper men were not led to believe that actual *harm would result to the public from* the proposed advertising. But, when the A. P. A. openly states that the object of its existence is to secure the removal of Dr. Wiley from the *Bureau of Chemistry of the Department of Agriculture* and to emasculate the pure food law it will find that even the golden bait of $100,000,000 will not be enough to buy up the newspaper editors to support a policy plainly injurious to the public. There may be found here and there an occasional newspaper which will yield to temptation but the great majority will stand as they always have stood, as soon as its moral significance is *made clear to them, on* the right side of the question.

The boomerang effect of the letter from Lock Box 2124 is well shown by the reply of the *Daily News* of Portland, Oregon, which *in breezy*, western style responds thus to the invitation to take its share of the $100,000,000 per year:

> What, ho, fellow citizens!!
>
> Ever hear of benzoate of soda and Dr. Harvey W. Wiley?
>
> Well, lest you have forgotten, in the mad rush to earn your daily bread, the recent exposures of the former by the latter, glance at this, and then read about the Advertisers' Protective Association.
>
> "Benzoate of soda" is a chemical combination so powerful that it completely arrests for a long time all natural decomposition in vegetable and animal tissue. It was hailed as a life saver and a blessing in disguise by the food trust, for it was a cheap and inexpensive preservative, and by mixing it in everything from catsup and canned beans to pigs' feet and dill pickles, said food trust waxed fat.
>
> What cared the trust if the same benzoate of soda that preserved the food, tended to preserve the stomachs of the "ultimate consumer"?
>
> Not one whit.
>
> But Dr. Wiley did.
>
> This friend of "us folks" who presides over the Bureau of Chemistry of the Department of Agriculture has been messing around a lot with *things* we eat, and as a result there are pure food laws. Incidentally it has been hard sledding for the food trust these past years.
>
> In passing, the *good doctor took* a few jabs at "patent medicines," makers of bad whiskey and other health-menacing concoctions.
>
> Of course, all of this "had a very depressing effect on trade;" that is, most of us shied at having our stomachs preserved.
>
> Enter the Advertisers' Protective *Association*, "composed of manufacturers of food, beverages and drugs, representing an investment of $400,000,000, whose advertising expenses are annually $100,000,000."
>
> Recognize 'em? Why, of course. Merely the food trust all fussed up in new clothes, with a new name.
>
> Now this A. P. A. affair proceeds to don further disguise. It rents Lock Box No. 2124 in New York City, hires one Frederick W. Cooper *as secretary and gets into action.*
>
> Frederick W. gets right down to business and has a circular letter printed telling what an undesirable citizen is Dr. Wiley, and urging that he be *roped, slaughtered and preserved*—probably with benzoate of soda.
>
> But right here Frederick W. Cooper made the mistake of his life, if he intended to work under cover, *for he sent one* of his circular letters to the editor of the *Daily News*.
>
> "Dear Mr. Editor," begins Frederick, and then he alludes to the "vicious and uncalled-for assaults on foods, beverages, etc.," meaning the unhealthy output of the food trust, and says that probably "many publications have felt the reduction in advertising patronage" as a result.
>
> Right alongside of this is that statement of "advertising expenses are annually over $100,000,000."
>
> Then he points out what an inefficient man is Dr. Wiley, and how the doctor has "squandered" millions of the public's money "*circulating untruthful reports about benzoate of soda*, whiskey and Coca Cola."
>
> Frederick blames "Heinze's 57 Varieties" with leading the fight on poor old benzoate, says that "Caffeinless Coffee" helped wallop Coca Cola, that the American Medical Association hammered the "patent medicines," and that the Kentucky distillers mauled "whiskey." By innuendo Frederick intimates that Dr. Wiley "benefited" by these attacks.
>
> The letter continues with a *plea that the editor write to* his senator and congressman and take the matter up in the editorial columns and go for Dr. Wiley, closing with the asser*tion that "we are American citizens, not Russians, and that* bureau-made law and one-man power are contrary to the spirit of our American citizenship."
>
> Well, here is the editor's answer, Frederick.
>
> The *News* does not want any of the A. P. A.'s $100,000,000 a year. More power to "Doc" Wiley. (Senator Bourne and Representative Lafferty, please note.) His is not a one-man regime, an autocratic bureaucracy.
>
> There are 95,000,000 "ultimate consumers" *behind the* "Doc," Mr. Frederick W. Cooper, and we will back them against your $100,000,000 a year and the other boasted $400,000,000 thrown in. Your *gang* fed us embalmed beef and bum drugs and benzoated pickles for many a long year, and now we advise you to have a care lest some one of the long-suffering 95,000,000 lies in wait for you at Lock Box 2124, follows you to the lair of the A. P. A.'s and "tips the joint off to the police."
>
> Believe us, Freddie, what *has already happened is but a* summer zephyr compared to what will happen if you are not careful how you spend that $100,000,000 a year.

The *News* is perfectly right. What has already happened to the manufacturers of fake "patent medicines," bad whiskies, sophisticated food, drugs and all others who seek private gain at the expense of the public health is only a summer zephyr compared to what will happen as soon as the American public realizes *the enormity of this effort* to exploit the people for private gain. It is incredible that men engaged in large business enterprises and presumably in touch with public opinion should so misinterpret the temper of the American people. *A new day is dawning* in public health matters and it would be well for those interested in any shady lines of business to recognize the fact and adapt themselves to the new conditions as speedily as possible.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Illinois: Coliseum Annex, Chicago, July 25-27. Sec., Dr. James A. Egan, Springfield.

Oregon January Report

Dr. E. B. McDaniel, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, January 3-5, 1911. The number of subjects examined in was 15; total questions asked, 114; percentage required, 75. The candidates examined were 78, of whom 46 passed, including 4 osteopaths, and 31 failed, including 1 osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Southern California	(1907)	78.2
Denver and Gross College of Medicine	(1905)	79.3
George Washington University	(1908)	85.4
Rush Medical College..(1883) 68.3;* (1902) 73;*	(1910)	77
College of Physicians and Surgeons, Chicago (1905) 85.4; (1908) 75.4; (1909) 82.9.		
Iowa College of Physicians and Surgeons	(1889)	*66.5
University of Iowa, College of Homeopathic Med.	(1910)	77.1
Southwestern Homeopathic Med. College, Louisville	(1909)	85.3
Hospital College of Medicine, Louisville	(1890)	*71.4
Kentucky School of Medicine	(1903)	80.4
University of Maryland	(1910)	79.9, 86 4
Maryland Medical College	(1907)	76.9
Johns Hopkins University	(1909)	87.6
Boston University	(1888)	77.8
University of Michigan, College of Medicine	(1864)	*59
University of Minnesota, College of Med. and Surg.	(1909)	82.2
St. Louis University	(1905)	*70.3
University of Buffalo..(1900) 79;	(1907)	83.4
Columbia University, College of Phys. and Surg.	(1908)	85
Jefferson Medical College..(1895) 82.4;	(1906)	76.7
Medico-Chirurgical College, Philadelphia	(1905)	86.6
Hahnemann Medical College, Philadelphia	(1909)	83.7
University of Oregon	(1908)	77.4, 79
Western Pennsylvania Medical College	(1899)	*74.9
Queen's University, Kingston, Ontario	(1908)	83.4
Memphis Hospital Medical College	(1909)	77.6
University of Toronto, Ontario..(1907) 81.1;	(1908)	84.4
Trinity Medical College	(1902)	80

Non-graduates, 75, 76, 81, 84.3, 86.

FAILED

College	Year Grad.	Per Cent.
Gross Medical College	(1892)	64.5
University of Indiana	(1897)	59
Keokuk Medical College, College of Phys. and Surg.	(1906)	48.4
University of Iowa, College of Medicine	(1903)	68.3
College of Physicians and Surgeons, Chicago	(1897)	68.5
Hahnemann Medical College and Hospital, Chicago	(1904)	58
Chicago College of Medicine and Surgery	(1910)	68.9
Northwestern University Medical School	(1906)	73.6
University of Louisville..(1907) 65.2;	(1910)	73.1
Kentucky School of Medicine	(1908)	51.6
St. Louis University	(1905)	54.1
Marion-Sims Beaumont Medical College	(1892)	44.2
Kansas City Medical College	(1901)	66.4
Kansas City Hahnemann Medical College	(1909)	64.7
Columbia University, College of Phys. and Surg.	(1885)	58.7
Medical College of Ohio	(1897)	44.1
Starling Medical College	(1906)	73.4
Ohio Medical University	(1904)	66.2
Pulte Medical College	(1888)	59.1
University of Oregon..(1909) 72.2;	(1910)	68.4
Willamette University	(1908)	56.1
Jefferson Medical College	(1910)	71.9
Western Pennsylvania Medical College	(1896)	47.9
Tennessee Medical College	(1907)	74
Royal University of Turin, Italy	(1899)	63.2

Non-graduates, 55.6, 56, 71.

* Passed on account of years of practice.

Louisiana May Report

Dr. A. B. Brown, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, May 18-20, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 132, of whom 104 passed and 28 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1892)	*60.1
College of Physicians and Surgeons, Little Rock	(1910)	78.9
Atlanta College of Phys. and Surgs..(1899) 78.3;	(1911)	77.3
Chicago College of Medicine and Surgery	(1908)	87
Bennett Medical College	(1901)	87.4
Tulane University of Louisiana (1906) 76.5; (1908) 87.3; (1910) 79.1, 83.3; (1911) 75.2, 77.1, 78.1, 79.8, 80.1, 80.2, 80.6, 81.4, 81.6, 81.8, 81.9, 82.6, 82.8, 82.9, 83.2, 83.2, 83.8, 83.8, 84.5, 84.6, 84.8, 85.7, 86,.86, 86.1, 86.2, 86.5, 86.6, 86.8, 86.9, 86.9, 87.4, 87.7, 87.8, 87.9, 88, 88.1, 88.2, 88.3, 88.5, 88.6, 88.8, 88.8, 89.2, 89.3, 89.4, 89.4, 89.4, 89.8, 89.8, 89.9, 90, 90.8, 91.1, 91.4, 91.4, 91.5, 91.6, 91.7, 92.1, 92.8, 92.9, 93, 93.1, 93.1, 93.4, 94.2.		
University of Tennessee	(1911)	77.1, 77.4
Memphis Hospital Medical College (1900) 76.1; (1910) 75.9, 76.8; (1911) 75.7, 77.2, 77.3, 77.5, 78.2, 78.7, 80.1, 81.4, 83.1, 85.8, 87.4, 91.8, 92.9.		
College of Physicians and Surgeons, Memphis	(1911)	76.7
University of the South..(1903) 76;	(1908)	75.8, 81
University of Nashville..(1909) 84.9;	(1911)	79.1, 85.9, 89.4
Baylor University	(1905)	*68.7

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1911)	73.4
University of Arkansas	(1911)	54.8
Atlanta School of Medicine	(1911)	31.9
Louisville Medical College	(1906)	70.4
University of Louisville..(1909) 68.1;	(1911)	69.3
Flint Medical College	(1910)	68.7, 74.5
Maryland Medical College	(1910)	46.2
College of Physicians and Surgeons, Memphis	(1911)	70.8
Memphis Hospital Medical College (1901) 60.9; (1902) 69.7; (1909) 66.6; (1910)† (1910 67.4, 69.8, 73.7, 74.6; (1911) 12.9, 60.7, 65.5, 68.8, 70.5, 70.5, 70.7, 72.6.		
Meharry Medical College..(1910) 69.3;	(1911)	73

* Passed on account of years of practice.

† No grade given.

Michigan May Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Detroit, May 18-20, 1911. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 51, of whom 50 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Baltimore Medical College	(1910)	79.1
Harvard University Medical School	(1909)	86.8
Detroit College of Medicine (1910) 84.6, 85.5; (1911) 77.3, 77.8, 79.5, 79.7, 79.8, 79.8, 79.8, 80.3, 80.6, 81.7, 81.8, 81.9, 82.1, 82.5, 83.6, 84.3, 84.4, 84.5, 84.5, 84.5, 84.7, 84.8, 85.1, 85 2, 85.5, 85.5, 85.5, 85.5, 85.6, 85.7, 85.8, 88, 88.3, 88.5, 88.5, 88.7, 89.1, 90.3, 90.4.		
Detroit Homeopathic College(1911) 78.7, 82.2, 83.5, 83.5, 84.7, 85.6		
Columbia University, College of Phys. and Surgs.	(1885)	75

FAILED

College	Year Grad.	Per Cent.
Detroit College of Medicine	(1910)	69.5

Mississippi May Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, May 9-10, 1911. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 170, of whom 89 passed, including 62 non-graduates, and 81 failed, including 48 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Atlanta School of Medicine	(1911)	1
University of Louisville	(1911)	1
Tulane University of Louisiana..(1901)	(1911)	2
Mississippi Medical College..(2, 1910)	(5, 1911)	7
University of Nashville	(1911)	1
University of Tennessee	(1909)	1
Memphis Hospital Medical College (1890) (1891) (1894) (2, 1908) (4, 1910) (1911)		10
College of Physicians and Surgeons, Memphis	(1911)	2
University of Pennsylvania	(1901)	1
University of Virginia	(1910)	1

FAILED

College	Year Grad.	Total No. Examined.
University of Alabama	(1905)	1
Howard University, Washington, D. C.	(1910)	1
Atlanta School of Medicine	(1911)	1
Atlanta College of Physicians and Surgeons	(1911)	1
Chicago Homeopathic College	(1900)	1
Louisville National Medical College	(1910)	1
St. Louis College of Physicians and Surgeons	(1908)	1
Mississippi Med. Coll. (1907) (1909) (1910)	(11, 1911)	14
College of Physicians and Surgeons, Memphis	(1911)	1
Memphis Hospital Medical College..(1906)	(1910)	2
University of Tennessee	(1911)	1
Meharry Medical College..(1905) (1907) 1908)	(1911)	4
Chattanooga Medical College	(1894)	1
Knoxville Medical College	(1909)	1
Gate City Medical College..(1906)	(1909)	2

Book Notices

An Introduction to Bacteriological and Enzyme Chemistry. By Gilbert J. Fowler, D.Sc., F.I.C., Lecturer in Bacteriological Chemistry in the Public Health Department, Victoria University of Manchester. Cloth. Price, $2.10 net. Pp. 328, with 28 illustrations. New York: Longmans, Green & Co.

The subject of bacteriologic and enzyme chemistry is becoming of such increasing importance that a thorough knowledge of it is essential to any one interested in the technical, industrial and sanitary matters. Indeed, the general physician should have some knowledge of it, especially as presented in this work of Fowler. The various subjects discussed are treated clearly and with sufficient conciseness to assure a careful reader a good understanding of many matters of importance and interest, such, for instance, as the provision of a pure water-supply and the disposal of sewage and other waste products.

The extremely technical parts of this subject are treated in such a way that the average reader who has some knowledge of chemistry cannot fail to grasp it; while the other portions of the work are taken up in a most fascinating way. The book should be of value to laboratory workers especially, and even to the general practitioner.

Accidental Injuries to Workmen. With Reference to Workmen's Compensation Act, 1906. By H. Norman Barnett, F.R.C.S., Surgeon, Cripples' Home, Belfast. With Article on Injuries to the Organs of Special Sense, by Cecil E. Shaw, M.A., M.Ch., M.D., Lecturer on Ophthalmology and Otology, Queen's University of Belfast, and Legal Introduction by Thomas J. Campbell, M.A., LL.B., Barrister-at-Law. Cloth. Price, $2.50. Pp. 376. New York: Rebman Co., 1911.

This work is an exposition of the Workmen's Compensation Act of 1906 of England. There is an introduction of fifty odd pages on the legal aspect of the development of compensation to workmen for injuries, followed by a chapter of some length on what legally constitutes an accident. The compensation act itself is then analyzed, and is followed by a long chapter on "Industrial Diseases as Accidents." Three appendices, one on the Workmen's Compensation Act of 1906, one on a list of industrial diseases and one on a report of the Departmental Committee on Compensation for Industrial Diseases, close the volume. Workmen's compensation acts have not yet made much headway in this country, but that they are certain to come seems evident; and as physicians necessarily have a great deal to do with the administration of these acts it is very desirable that they should be as thoroughly familiar with them as possible. Aside from this phase of the question this volume contains much valuable information regarding industrial diseases which is not found in the usual text-book and which is of much interest to the physician.

Die Behandlung der Frauenkrankheiten. Für die Praxis dargestellt. Von Dr. J. Veit, Professor und Direktor der Univer- [illegible] in Halle a.S. Geh.Med.-Rat. Paper. Price, 8.20 [illegible] with 34 illustrations. Berlin: S. Karger, Karlstrasse 15, 1911.

The average American and English text-book on diseases of women is primitive in comparison with this classical summary of the general operative and therapeutic treatment of gynecologic disorders. The first thirty pages are devoted to the detailed description of the consultation, treatment and operating rooms, as well as the antiseptic preparation of the surgeon, his assistant and the instruments. The author has gone into particulars in describing the technic of all the late operations in gynecologic surgery, including those which are recognized by others and making special mention of those which he prefers. The critic may take exception to some of Veit's preferences. In several instances he clings to operative procedure which has been discarded by the majority in this country: e. g., ventral fixation and the Alexander-Adams operation for retrodeviation. With few exceptions, Veit mentions all the most recent therapeutic measures employed in the specialty, and dwells forcibly on the prominent sociologic problems that confront the gynecologist. As a record of gynecologic practice at the present date, this work will remain for all time an invaluable reference book and an eloquent plea for the specialty of gynecology. The American gynecologist cannot read Veit's contribution without a profound recognition of the close tie in methods and thoughts which bind the advanced gynecologist of this country to Germany. For the younger professional men, especially those who have not had exceptional experience as interns, or the privilege of assisting one of the advanced gynecologists of the day, the book is of unique value.

Proceedings of the Tenth Annual Conference of Sanitary Officers of the State of New York, Held at Y. M. C. A. Auditorium, Buffalo, Nov. 16-18, 1910. New York State Department of Health. Paper. Pp. 270. Albany: New York State Department of Health, Division of Publicity and Education.

This pamphlet contains a number of valuable papers and discussions on various phases of municipal and rural hygiene and sanitation by sanitarians of New York and by others who have achieved prominence in various lines of sanitary endeavor. There is one each by Hill of Minnesota on typhoid fever, by Frost of the U. S. Public Health and Marine Hospital Service on poliomyelitis, on venereal diseases by Swarts of Rhode Island, on the reporting of contagious diseases by Levy of Virginia, one on rural hygiene by Freeman of the same state and one by Hall of Minnesota on handling garbage, beside many other practical papers. The collection constitutes a valuable document for health officers, presenting a variety of late views and information on the vital featu of public sanitation and the prevention of disease.

Medicolegal

Illegal Practitioners Not Libeled by Published Demand Their Removal from Building—Use of Terms "Osteopathic Physician" and "Quack"

The Supreme Court of Washington affirms, on the seco appeal of the alleged libel case of Lathrop vs. Sundberg a others (113 Pac. R. 574), a judgment of dismissal in fav of the defendants. The plaintiff, an osteopath, wanted $7 000 damages because of the publication by the defendants a newspaper of the following: "We the following reputab physicians and dentists, occupying offices in the Eitel Buildin endeavoring to uphold the honor and dignity of our profe sions and desiring to encourage only the best and most desi able tenants for our office building, and thereby conserve t best interests of the public at large, are most emphaticall opposed to the indiscriminate rental of offices in this buildin to osteopaths, neuropaths, autopaths, chiropractors, umtomt reists, unprofessional masseurs, criminal practitioners, 'me ical institutes,' advertising 'specialists,' patent medicine faker quacks, charlatans and other fraudulent concerns. We, ther fore, demand the removal of all such persons now holdin offices in this building and the exclusion therefrom of a such undesirable tenants in the future."

The court says that the plaintiff testified that, while pursu ing his calling as a barber, he read four typewritten lesson a week for fifty-two weeks from an osteopathic correspondenc school, embracing the subjects of anatomy, physiology an pathology; that he had on his office door the words "Dr. C. Lathrop, Osteopathic Physician," while in that building. H insisted that he should have been permitted to offer furthe evidence tending to show that he was an osteopath, and tha his case should have been submitted to the jury. But th court thinks that the correct view of the case was take when it was withdrawn from the jury and a judgment o dismissal entered. It appeared from the testimony of th plaintiff himself that he was pursuing his practice in a manne forbidden by the laws of the state, which make it a misdemeanor for a person to maintain "an office or place o business with his or her name and the words * * * 'Doctor * * * in public view," without having obtained and filed a license as provided by law. In State vs. Pollman, 51 Wash. 110; 98 Pac. 88, it was held that a prefix or qualifying words to the title "Physician" did not relieve a party from the penalty of the statute; that the abbreviation "Dr." offended the law to the same extent as the word "Doctor;" that the purpose of the statute is to protect the people against deception; and that "it is practitioners of the regular school rather than the others that the ill and infirm seeking relief usually expect to find when entering a room whose door has lettered upon it the name of a person preceded by the title 'Dr.' or followed by the letters 'M.D.,' or 'Physician and Surgeon.'"

Without undertaking to define the words "quack" and "charlatan," the terms by which the plaintiff was characterized in the libel, it suffices to say that he was knowingly luring patients into his office by a method condemned by the penal laws of the state. This was a fraud and imposition on the public, and the law will afford him no redress for the loss of earnings sought to be acquired in that manner. On the former appeal this court said, speaking of the libel in question: "Clearly this is libelous *per se* (in and of itself), if published of and concerning the appellant (plaintiff), and he is engaged in a reputable practice, and that it was published of and concerning the appellant, and that his practice is reputable, was distinctly alleged in the complaint." He could not be engaged in a reputable practice while offending against the statute. As was said in Hargan vs. Purdy, 93 Ky. 424; 20 S. W. 432: "If he was then undertaking to practice medicine in violation of the statute of the state, he could not, in contemplation of law, have been injured or sustained damage from being called an 'empiric' or 'quack;' or, at all events, he could not be heard in a court of justice to complain that words had been spoken or written of him having the simple effect to disable or deter him from violating a penal law." See, also, Marsh vs. Davison, 9 Paige's Ch. 580.

The plaintiff contended that he had a common-law right to practice osteopathy without a license; that he was libeled while pursuing that right; and that his damages should have been assessed by the jury. If he had advertised and practiced as an osteopath, that question would have been presented, while under the above circumstances it was not.

Constitutionality of Law Providing for Medical Examination and Detention of Prostitutes

Justice Bischoff says, in delivering the opinion of a Special Term of the Supreme Court of New York, New York County, in People vs. Fox (127 N. Y. S. 484), that, on the theory of discrimination between men and women, the attack on the constitutionality of section 79, chapter 659, of the New York laws of 1910, providing for the medical examination of prostitutes, was not well founded. It is unquestionably an enactment having for its aim the safeguarding of the health of the inhabitants of the state, and the matter is fully within the police power. Ground of argument is not lacking that the danger from the spread of disease by women of the class in question is greater than the danger existing from the disease in the case of men, and that the present regulation is necessitated as a step distinct in its nature from a corrective measure which may be directed to the diseased condition of males. The question of expediency, therefore, was for the legislature, and it is not to be determined as an original matter by the court.

There was clearly merit, however, in the contention that the statute directs the detention of the accused, without due process of law, in that the nature of the sentence, after conviction, is made to depend on the report of a physical examination without the opportunity for a hearing on the facts entering into the report. The conclusion of the examining physician is made binding on the court. The report is presented to the magistrate, "and if it thereby appears," says the statute, that the prisoner is afflicted with the disease in question, "the magistrate shall commit her to a public hospital" for a period which, in the magistrate's discretion, may be one year—a period greatly exceeding the maximum time of detention prescribed for the same offense in the absence of a physician's report. Since the physician is not a judicial officer, and since the magistrate cannot hear the accused as to the correctness of the facts stated in the report, but is bound thereby, the penalty attaching to conviction of the offense is made to depend on an independent inquiry out of court, with the result that the convicted person is deprived of the benefit of due process of law.

Society Proceedings

CONNECTICUT STATE MEDICAL SOCIETY

One Hundred and Nineteenth Annual Meeting, held at Hartford, May 24-25, 1911

The President, Dr. Frank K. Hallock, Cromwell, in the Chair

The officers elected were named in The Journal, July 1, p. 31.

A Farm Colony for Alcoholics in Connecticut

Dr. Frank H. Barnes, Stamford: In order to get some statistics on the subject to present to the society, letters were mailed to the judges of the courts of the leading cities in the state. The answers to these letters lead me to think that it would be advisable to establish a farm for alcoholics in Connecticut. I would suggest that the president of this society be given power to appoint a committee to present this matter to the legislature of this state, and to ask for the appointment of a commission to investigate the matter. (This committee was appointed.)

The Diagnosis of Syphilis

Dr. Jessie W. Fisher, Middletown: The serum reaction makes possible the early diagnosis of syphilis. It is corroborative of the clinical symptoms, invaluable in the differential diagnosis of obscure disease, an index to the progress of recovery, and a guide to marriage. With the cyto-analysis of the cerebrospinal fluid, it is diagnostic of dementia paralytica.

The Feeding of Sick Infants

Dr. Charles A. Goodrich, Hartford: The various substitutes for milk feeding in illness, such as cereal decoctions, albumen water, a sugar solution and whey, have a low food value, as ordinarily prescribed. While these are useful in certain classes of cases there are contra-indications to their use in many instances. Intolerance for milk, due to disease or to some inherent peculiarity, occurs in some infants. In these the cereal gruels, plain or dextrinized, are useful.

DISCUSSION

Dr. H. Merriman Steele, New Haven: I have frequently fed summer-diarrhea patients with well-cooked cereals, nearly as thick as the ordinary breakfast foods, and I believe, with much better results than could be obtained by using the weak cereal waters. If one must starve the baby for 24 or 48 hours, water alone is the best treatment, attention being paid to the salts. I agree with Dr. Goodrich in his recommendation of milk sugar as a proper food for tiding over acute cases. In rectal feeding, dextrin in solution probably furnishes more absorbable material than any other food at our command. In adding milk-sugar to whey, one may easily overstep the limit of tolerance for sugar, because whey itself contains over 47 per cent. of this ingredient. Undue stress is often laid on the character of the stools in convalescent cases of summer diarrhea. This is absolutely no contra-indication to beginning milk feeding. I would suggest a trial of buttermilk in cases in which there is intolerance for milk. For both sick and healthy infants, one should not forget the value of the salts of food.

Dr. Walter G. Murphy, East Hartford: Empirically, it has been found that children after the age of three or four months often do better on a mixture of milk and barley-water than on one of milk and water or any other diluent. Its food-value, however, is so little that, if long continued, the patient may suffer from a lack of nourishment. In acute irritative diarrhea, the indications are to get rid of all irritating substances in the intestinal tract, and to withhold all food until the vomiting has ceased. In cases in which the babies have some infection and are overfed, plenty of water and plenty of rest are indicated; and if these children are not too much depressed, they are better without food. In acute fermentative diarrheas, if the child's condition will warrant it, the withholding of all food until the intestinal tract has been cleared of fermenting substances is better than the giving of nourishment. In babies whose general condition has not been good, and whose powers of resistance are below normal, and who are subject to frequent attacks of diarrhea and vomiting, the withdrawal of all food is usually disastrous. If the stools are offensive, cereal foods, either plain or dextrinized, given to the extent of the digestive capacity, are necessary.

The Relation of the Medical Profession to Opticians

Dr. Henry W. Ring, New Haven: In the passage of so-called optometry laws throughout the United States, the help of the medical profession has been solicited with no small degree of success. This aid has been obtained through misrepresenting the possible and actual evils to which the public may be subjected. Many physicians send patients to opticians for examination and treatment of the eyes, forgetting that opticians bear the same relation to the ophthalmologist that druggists bear to the general practitioner. A large number of cases of serious disease of the eyes have been treated by opticians with glasses, the real trouble not being suspected. The eye is not only subject to diseases peculiar to itself, but also participates in and gives evidence of affections of the other parts of the body; and anyone unacquainted with this relationship is bound to make mistakes. The measurement of errors of refraction and anomalies of accommodation and of ocular motility, with or without the aid of drugs, is not a simple mechanical procedure, but represents one of the most important therapeutic measures in the practice of medicine. The oculists have shown more activity than the general practitioners in opposing the extension of this optometry legislation, because they so frequently see the unfortunate results; but this opposition should not be confined to them. The situation should be appreciated by the profession in general.

Some Problems Connected with the Inspection of Schools

Dr. Edward W. Goodenough, Waterbury: The most important work of medical men to-day is connected with the growth and development of the child. Medical inspection of schools is primarily for the benefit of the growing child. It is not a charity. The town or the state should be willing to pay members of the medical profession a reasonable amount in order to give the children in school protection against disease. A school nurse is also a necessity, as she is a help to the physician in many ways. Until the position of medical inspector of schools is fixed on a firm basis, physicians appointed to this office must be willing to give the town more than a full equivalent for the money invested in this work.

DISCUSSION

Dr. Chas. P. Botsford, Hartford: It is a duty we owe to the rising generation to try to influence fathers and mothers in favor of medical inspection, and to convince them that it is not necessarily very expensive. A properly devised medical inspection, suited to the town and the school in which it is made, will pay for itself in more regular attendance and better work on the part of the children.

Dr. Frank H. Barnes, Stamford: There are more feebleminded children, idiots and imbeciles in the schools than one would think. I believe that it would be better not to include the small country towns, and it should be decided whether the school committee or the public health boards shall take charge of the inspection.

Dr. Thomas G. Sloan, Manchester: During the past year, we had two serious and long-lasting epidemics, one of diphtheria, and one of scarlet fever. Throughout this time, every child's throat was examined twice a week. Cultures were made from throats found inflamed. In this way, we discovered and sent home some children with scarlet fever. When necessary, the school-room was fumigated. Medical inspection has been in existence two years in Manchester, and we are well satisfied with its results.

Dr. Edward K. Root, Hartford: The general public, knowingly or otherwise, make a sharp distinction between contagious diseases, in which their children's lives may be endangered from coming into contact with those that are ill, and conditions of malnutrition and degeneracy, which they regard as no one's business but their own. In Hartford, where medical inspection has been in existence ten years, we always turn over the treatment of the sick children discovered to their parents. If they are not taken care of at home, then the town must take care of them. Everything that the State does for the child lessens the responsibility of the parents to just that extent.

Dr. Henry F. Stoll, Hartford: One thing that has impressed me is that the teachers are not capable of picking out the delicate children. I tried to have them pick out and send to me cases suitable for our out-of-doors school. Finally, I adopted the plan of standing at the foot of the stairway when the school was dismissed, so that I might see the children in a good light walking. I could then select the cases and have them sent to me for a more careful examination later on.

Dr. Samuel M. Garlick, Bridgeport: Referring the matter back to the parent educates the parent and the child itself. It is much more desirable to educate the individual than to educate the public. Dismissing the matter without reference to the family physician tends to reduce the confidence in him that the family should have.

Dr. George H. Wright, New Milford: The parents can be perfectly educated in almost every case, not only to submit to the inspection, but also to carry out the recommendations made by the inspector.

Case of Bronzed Diabetes

Dr. George Blumer, New Haven: This case showed the triad of symptoms and signs that characterize typical examples of bronzed diabetes. The form of diabetes associated with this condition is usually acute. The skin pigmentation, which is entirely lacking in about one-sixth of the cases, varies greatly in both color and situation. In many of the reported cases, disease of the liver was present years before the appearance of the other manifestations. Some patients enter the hospital with gastro-intestinal disturbances. The occasional occurrence of the clinical evidences of blood destruction may be noted. The disease is confined almost exclusively to males, usually between the ages of 30 and 60 years. Alcohol plays an important part in the etiology of many cases. The amount of iron that is present in some of the organs, as well as the skin lesions, is very considerable. The blood destruction taking place within the portal zone may lead to the deposition of pigment, with its maximum deposit in the abdominal organs, much like that which occurs in hemochromatosis. The differential diagnosis may be simplified by pointing out that a combination of pigment with an enlarged, hard liver and glycosuria is not liable to occur in any other condition. While the possibility of the occurrence of diabetes or of an enlarged liver as a complication of various diseases associated with pigmentation of the skin cannot be denied, the likelihood that this triad of symptoms and signs will occur outside of bronzed diabetes is very small.

DISCUSSION

Dr. Wilder Tileston, New Haven: The name hemochromatosis is preferable to bronzed diabetes, because it covers cases of pigmentation of the skin without signs of diabetes. In 1889, I saw such a case. The patient looked like a mulatto, though his skin had been fair before his illness. He showed no enlargement of the liver, and no sugar in the urine. Microscopic inspection showed the presence of iron pigment, which does not occur in any other condition than hemochromatosis though its absence does not exclude that diagnosis. The coloring matter is probably brought to the cells by the blood, and not manufactured locally by the skin. Pigmentation of the skin has usually been considered indicative of Addison's disease, but I have found only the minority of cases to be due to affections of the adrenals. The pigmentation of arsenic, though rather uncommon, must be borne in mind in this connection. It is possible to have pigmentation of the mucous membrane of the mouth in people otherwise healthy.

Law, Medicine and the State: Some Points of Contact

Dr. Frank K. Hallock, Cromwell: The members of the professions are, in the main, the recognized exponents of the best thought and the most worthy ideals; and, as such, the great mass of the people who are less favored in education, have a right to look to them as the natural leaders in the solution of civil problems, moral and physical. Independent effort cannot be so successful as the effort that has back of it an organized body or class. Such organizations in the professions should have at least two objects: to raise the standard of their own efficiency, and to discharge their duty to the state by accomplishing results calculated to benefit the general public. Law and medicine should get together for the benefit of the state on such points of contact as expert testimony and boards of health.

The Importance of Early Operation for Tumors of the Breast

Dr. George N. Bell, Hartford: The situation in regard to breast tumors has not changed much in the past century. If we can be absolutely sure of their benignancy, they should be let alone, and if malignant, they should be removed. The treatment depends on our ability to decide which is which. Eighty per cent. of all breast tumors are malignant, so the need of early diagnosis and operation in cases of malignancy is apparent. The operative mortality is less than 1 per cent., so it is a wonder that the postponement of operation in these cases it still considered. Multiple tumors of the breast are usually benign. The one positive means of diagnosis is the microscopic. One cannot, however, be sure that a benign tumor will remain benign. Therefore, it is best to remove a mass in the breast as soon as attention is called to it, to submit to the pathologist for examination and operate radically if necessary. The chief factor in the prognosis, next to the extent of the growth, is its glandular involvement. The more radical methods of operating, consisting in the removal of both muscles and axillary contents, and the greater rapidity in doing the work, have given much better results than were formerly obtained. Another advance has been in the employment of frozen sections in all doubtful cases.

DISCUSSION

Dr. Oliver C. Smith, Hartford: The majority of benign tumors of the breast, except the lipomata, should be removed. These tumors frequently become malignant. One cannot always tell at operation whether one is dealing with benignity or malignancy. We should try to educate the laymen to realize that a tumor of the breast is a dangerous thing and should be investigated at once by a competent man.

Dr. Charles E. Taft, Hartford: I cannot emphasize too much the importance of examining all the organs of the body liable to metastasis before deciding to operate on the breast. After the muscles have been dissected away, it is best to tie all the small blood-vessels in the chest with a needle and thread, in order to prevent secondary hemorrhage. Unless a physician is himself prepared to urge the patient to submit to operation, he should immediately refer all tumors of the breast to a surgeon.

Dr. Clarence E. Skinner, New Haven: Early and thorough ablation is the first and most important step to be taken in the great majority of cases, but in order to prevent recurrence, roentgenization should be employed immediately after every ablative procedure for cancer. The *x*-ray exhibits a powerfully curative influence over malignant processes in many cases, and in a disease with such a gloomy prognosis, it is not justifiable to omit the application of any means of control that has demonstrated that it possesses value. It is impossible to tell at the time of operation in which cases recurrence will take place, and recurrence is frequently more resistent to the *x*-ray than the original lesion. Early recurrences are frequently internal and give no sign of their presence until it is useless to do anything.

Intestinal Obstruction, with Especial Reference to Intussusception in Infants

Dr. Owen O'Neil, Willimantic: The palpation of a sausage-shaped tumor through the abdominal wall is by no means an unfailing guide. Vomiting, though fairly constant in acute intussusception, may not be present. The value of prompt operation, limited to the relief of the actual acute condition, cannot be overestimated, nor the uselessness and even danger of palliative measures, which may ameliorate the active symptoms of the disorder, even simulating true reduction, and thereby may cause serious delay in the institution of radical treatment. Mechanical obstruction by a foreign body in the intestines may present all the general symptoms of an intussusception.

DISCUSSION

Dr. Joseph M. Flint, New Haven: In two cases of true intussusception there was an absence of abdominal tumor. Acute abdominal symptoms, mucohemorrhagic stools and a palpable tumor in the rectum are the most common signs of intussusception in young children. I think that there is a group of cases in which palliative treatment deserves a wider recognition, those in which the intussusception may not be reducible and in which an extensive gangrenous process may be present, with relatively few objective symptoms and no general reaction indicated by signs. However, because we cannot tell when palliative means will lead to serious results, the operative method should be applied as early as possible.

Dr. John W. Wright, Bridgeport: Some years ago I was called into consultation on two cases that were, without doubt, intestinal intussusception, but which were then mistaken for cases of mild enterocolitis. Unfortunately, the diagnosis was not complete enough to warrant a resort to operation and both children died. I have found intussusceptions in some cases at the post-mortem examination, as many as twelve in one case. I have not, within the last few years, seen any cases of enterocolitis in children resulting in intussusception. Therefore, I have not operated in that sort of case.

Dr. James H. Kingman, Middletown: One case of intussusception which I saw illustrates the point of not doing too much at one time. We found 5 inches of black, gangrenous gut, but, as the child's condition was very bad, we thought it unwise to resect. We therefore stitched around the gut and made an artificial anus. The child afterward did pretty well. Most of the gangrenous part finally sloughed off, leaving the double ends projecting out of the abdomen. These I clamped and obtained motions through the normal passage. A few months later I did a resection and had a perfect result. I believe that if I had tried to do more at the time of the first operation than to make an artificial anus the child would have died.

Dr. John B. Boucher, Hartford: Some years ago I had the accident of reinvagination happen in one of these cases. In order to prevent this in a subsequent case I dissected off the mesentery, brought the cecum down to the abdominal wall at the point where it should have been, drew the appendix through the tendon and put a piece of adhesive plaster over the appendix, leaving it there for twenty-four hours. I then cut it off, obtaining primary union.

Dr. Harmon G. Howe, Hartford: One should not be too energetic with the hydrostatic method, nor trust to the apparent recentness of the attack, for some of these cases are partially invaginated for some time before presenting symptoms. Even if we do succeed by this means in reducing the intussusception, death will sometimes take place from gangrene.

Dr. Edward W. Smith, Meriden: In a case of intussusception of the ileocolic variety in a child of eleven months, 2 or 3 inches of the cecum were drawn in. After the operation the child made a good recovery. Six months later it had another invagination, probably due to having eaten a large amount of peanut candy. This time I employed Dr. Taft's method of inverting the child and manipulating the bowel. The tumor disappeared and the child dropped into a quiet sleep.

Dr. O. C. Smith: I think that I would be inclined first to try palliative measures, because in a child this is a serious operation. If warm sweet-oil is used the intussusception may be carried up, though not quite undone. This shows the region where the intussusception starts from and gives an idea where to operate.

Peritoneal Tuberculosis

Dr. Daniel Sullivan, New London: Tuberculous peritonitis mimics every other abdominal disease or condition. It is secondary to tuberculosis in some other organ in 90 per cent.

of the cases, the lungs being the primary seat more frequently than all the other organs taken together. I have had two cases in which jaundice was a pronounced symptom. While peritoneal tuberculosis is sometimes a surgical disease it is always a medical one. The medical man should treat his patients with rest, fresh air, nutritious food, medicine (if necessary to help the emunctories) and all that goes with good nursing. If, after five or six days, there is no improvement and the case is one of the ascitic form or when the Fallopian tubes or the appendix appear to be the location of the mass, a laparotomy should be advised. A simple incision and the evacuation of the fluid, with a removal of the primary seat of infection, if possible, is the best procedure, the wound being closed without drainage. Then begin again with the hygienic treatment.

DISCUSSION

Dr. John B. Boucher, Hartford: Abdominal drainage should not be used, because mixed infection should be avoided in such cases. If this is prevented tuberculosis is a comparatively harmless disease.

Dr. Seldom B. Overlock, Pomfret: The medical treatment of these cases consists in putting the patient in the most favorable condition to resist the disease. The surgical treatment can be of service in eliminating the foci of infection and covering them up. We thus get rid of as much tuberculous material as possible, leaving Nature to pour out an effusion to help bury what is left.

Dr. David R. Lyman, Wallingford: I have usually referred these patients to the surgeon, because of acute appendicitis, but back of this there has been the tuberculous peritonitis. In several cases I have seen bad effects from ether anesthesia and am inclined to be very cautious in its use in patients with tuberculous peritonitis.

The Two-Stage Operation for Intestinal Obstruction

Dr. Edward R. Whittemore, New Haven: I have found it advisable to do a simple enterostomy at first, leaving the removal of the obstruction until later. The operation should be done as early as possible, with the usual preparation of the patient, especially remembering to wash out the stomach before giving the ether. Only the briefest examination should be made at the operation to discover the site and cause of the obstruction, the search being abandoned if not soon successful. A simple enterostomy is then done on the most distant loop, preferably not in the median line. If any gangrenous gut is seen it should be drawn into the wound, secured there and opened. All other procedures should be left until the second stage, a week or so later, when the patient will be found in a good condition to stand it. The object of this procedure is, first, rapid and efficient drainage of the bowel. The relief of the obstruction is secondary and should be taken up later.

DISCUSSION

Dr. Everett J. McKnight, Hartford: It seems to me very important to realize that above the point of obstruction there is a large amount of toxic material, which, if allowed to go down through the bowel, may be absorbed and cause trouble. In intestinal obstruction we should not, as a rule, close up the bowel in the abdomen without due precaution against this source of intoxication. I should like to call attention to the advisability of doing an enterostomy also in many cases of postoperative distention when this cannot be relieved by any other means.

CANADIAN MEDICAL ASSOCIATION

Forty-Fourth Annual Meeting, held at Montreal, June 7-9, 1911

The President, Dr. George E. Armstrong, of Montreal, in the Chair

President's Address

Dr. George E. Armstrong, Montreal, sketched the history of the origin and development of the Canadian Medical Association. The Roddick Bill for Dominion registration was classed as the most forward medico-political question before the profession in Canada to-day. Dr. Armstrong expressed the hope that with the adoption of this act, before long the councils of the English-speaking province would unite on a uniform standard of matriculation, although Quebec would have to remain outside on account of different educational methods. The question of the water-supply of Canada was dealt with at considerable length. Dr. Armstrong declared that in such a country as Canada with its abundant pure water-supply it was a reproach to any municipality, large or small, to have water-borne diseases. "We should not be satisfied in Canada until the water-supply throughout the country is made safely potable and make it so that the guide books can say that tourists can safely drink the water in any Canadian city." The remainder of the address was taken up with a consideration of the housing problem in Canada.

Address in Surgery

Dr. A. Primrose, Toronto: The present status of surgery in Canada has been one of gradual evolution. Canada being a young country, something of the spirit of the pioneer settlers has been inherited and Canadian medical men are more ready to develop along lines which may be new and revolutionary in character. The consequence of this willingness to learn has been that nowhere is work done in surgery with more uniform efficiency than can be found in the hospitals of Canada to-day. Conservatism is surely to be commended, but that type of conservatism which is tempered with an ability to use calm and deliberate judgment in determining what is best for our patients and when new light is thrown on some obscure problem we should be ready to abandon any erroneous ideal, which we may hitherto have held, and be prepared to advance, seeing no finality in our present-day methods, but always endeavoring to attain the ideal.

The Surgical Treatment of Gall-Stone Disease

Dr. William J. Mayo, Rochester, Minn: In reviewing 4,000 operations which we have performed on the gall-bladder and biliary passages, I have been impressed with the fact that the mortality was due to the complications incident to the disease rather than to the removal of gall-stones from the otherwise normal gall-bladder. Not only is the mortality greatly increased by the involvement of the deep bile passages, the liver, the pancreas and neighboring viscera, but the gall-bladder may also be found in such condition as to render an attempt to save it impracticable and fraught with a possibility of a recurrence. The gall-stones, however, are the responsible agents in the production of these complications inasmuch as they set up a train of events, which would not have occurred had these gall-stones been removed early in the history of the disease. It is in this early period that an operation furnishes an easy, safe and efficient cure. Cholecystostomy, with temporary drainage of the gall-bladder to the surface, is the operation preferred because it saves this valuable organ for future function. The danger of reformation of gall-stones after cholecystostomy is exceedingly small. In our service we observed but three cases in which stones had reformed and it is probable that in the majority of supposed cases of reformation of gall-stones the stones had not reformed, but were incompletely removed at the primary operation, an accident which does not often happen when the operation is done early.

In the class of cases in which the gall-bladder is contracted down on a mass of stones secondary carcinoma is liable to develop. In our experience 2.25 per cent. of all operations on the gall-bladder and biliary tract have shown malignant complications. The danger of carcinoma alone is five times as great as the mortality following operations for the relief of simple gall-stone disease. So long as the stones are confined to the gall-bladder, the trouble remains local in an organ which is not essential to life, but with the entrance of stone and infection into the deep duct of the liver two fundamental organs which are essential to life are liable to be involved in the process, namely, the liver and the pancreas. Stones in the common duct not only impair the health of the patient, but complications directly threatening life may arise at any time.

In the 4,000 operations the average mortality was 2.75 per cent. In 2,920 the disease was local and confined to the gallbladder and cystic duct. The operative mortality was 1.8 per cent. In 2,165 of these cystostomy was performed with a mortality of 1.5 per cent. In 755 cases, cystectomy was performed with a mortality of 2.4 per cent. Contrast these data with 492 cases in which the common duct was involved with an average mortality of 8 per cent., a mortality which depended not so much on the operation itself as on the extent of the involvement of the liver and pancreas, and the bad general condition of the patient. Pancreatitis as a complication occurred 359 times in the 4,000 cases.

Preventive Medicine the Medicine of the Future

Sir James Barr, Liverpool, England: The hope of the human race lies in the physician. Almost all the ills to which flesh is heir arise from the stomach and are preventable. If, then, the public were only alive to their own interests, they would pay medical men liberally for directing them in the paths of truth and in the ways of health rather than for treating their diseases. If the money spent in the treatment of disease was devoted to the preservation of health, our huge hospitals would not be half filled, purveyors of synthetic remedies and artificial foods might find a suitable shelter in the home for the destitute, and specialists would largely disappear, and physicians would be fully occupied in advising their clientele on the preservation of health and in looking after the aged. So far as preventive medicine is concerned, very little can be placed to the surgeons' credit. About the only diseases they attempt to prevent are those which spoil their operations—erysipelas, pyemia and septicemia. With regard to the crying need for controlling the birth-rate *of the unfit: Those countries which have to a large extent suspended a selective death-rate but are not wise enough to establish a selective birth-rate, are certain to decay.* I am not now so much concerned with the prolongation of life as with the preservation of health. When a life ceases to be efficient it may retire into obscurity, be withdrawn from circulation or receive an old age pension.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Surgery, Gynecology and Obstetrics, Chicago

June

1 *End-Results of Twenty-Five Cases of Tuberculosis of Kidney Treated [illegible] orelius, Sweden.
2 Suprapubic [illegible] Calculi Impacted in Portion of U[illegible] in Bladder Wall. W. J. Mayo, Rochester, Minn.
3 *Congenital Umbilical Hernia. F. A. Palmer, Morris, Ill.
4 *Testing Viability of Strangulated Intestine. S. C. Plummer, Chicago.
5 *Common Fallacies Regarding Skin Disinfection, with Special Reference to Iodin Methods. M. B. Tinker and H. L. Prince, Ithaca, N. Y.
6 *Congenital Stenosis of Ureter. D. N. Eisendrath, Chicago.
7 Case of Inguinal Hernia of Urinary Bladder. H. I. Ostrom, New York.
8 *Placenta Prævia. E. McDonald, New York.
9 Peritonitis. J. W. Kennedy, Philadelphia.
10 *Stenosis of Pylorus in Infancy. H. M. Richter, Chicago.
11 Anatomic Repair of the Female Pelvic Floor. C. M. Watson, Pittsburg.
12 Surgery of Fractures and Dislocations of the Nose. J. B. Roberts, Philadelphia.
13 *Position for Saving Time and Facilitating Combined Abdominal and Pelvic Outlet Operations. A. C. Scott, Temple, Texas.
14 Case of Omental Myxosarcoma. A. McLean, Detroit, Mich.
15 New Prostatic Depressor. G. F. Shiley, Seattle, Wash.
16 Complete Anatomic and Functional Restoration of the Anus. H. T. Hutchins, Boston.
17 *New Method of Treating Stump in Appendectomies. J. T. Greeley, Nashua, N. H.
18 Artificial Synovial Fluid. R. T. Morris, New York.

1. **Treatment of Tuberculosis of Kidney.**—Of Borelius' twenty-five patients, ten were men and fifteen were women. The right kidney was affected in seventeen cases and the left in eight. The youngest of the patients was 13 years old and the oldest 57. The average age was 30 years. If the end-results are summed up, the matter stands as follows: Dead, seven patients, six of them from tuberculosis; recovered, nine; improved, nine; not improved, none. These results put together with like results previously communicated by Israel and Krönlein seem to indicate that one must count on a mortality of 25 per cent., but that the remaining 75 per cent. of patients, as a rule, have good prospects of regaining full health through the operation. Krönlein has recorded health eighteen years and Israel fifteen years after nephrectomy for tuberculosis in the kidney.

3. **Congenital Umbilical Hernia.**—In this case Palmer united the skin and peritoneum across the hernia opening in such a manner as to prevent the immediate recurrence of the hernia, depending for its ultimate cure on the tendency of the umbilical ring toward closure during the early weeks of life. The absence of abnormal scar formation and presence of normal puckered umbilicus is a matter of gratification, but of minor importance. The idea of leaving the cure of a hernia to the well-known tendency of these openings toward closure during the child's early years is not a new one. It is new only in its application to the umbilical ring.

4. **Testing Viability of Strangulated Intestine.**—A recent case in which he operated for strangulated hernia suggested to Plummer a procedure of encouraging the return of the circulation in the strangulated loop. Here was an intestine whose viability was questionable. It was highly desirable that it be replaced, if this could be safely done. Plummer accordingly applied hot compresses, wet with normal salt solution, for fifteen minutes. Not only was there no improvement in the circulation of the parts which had been strangulated, but the adjacent normal intestine was becoming edematous and of a darker red color than before. Realizing that it was the traction which he was making that interfered with the circulation, Plummer temporarily reduced the affected parts, at the same time delivering some of the adjacent intestine, so that he could again withdraw the affected parts for inspection. After allowing the previously strangulated parts to remain in the abdominal cavity three minutes, he withdrew them. The change was striking. All swelling had left the intestine, the color was normal and the furrows at the two constricted points could scarcely be seen. All that was left of the evidences of circulatory disturbance was an area of venous stasis, 1 inch long and one-quarter of an inch wide, on one side of the mesentery, close to the bowel. The hernia contents were at once reduced for the second time, this time permanently, and the operation completed, the patient making an uneventful recovery. Plummer recommends the further trial of this procedure of temporary reduction.

5. **Skin Disinfection.**—Experiments made by the authors lead them to conclude that iodin does not fulfil the requirements for safe preparation of the skin, that it will not destroy the spore-forming bacteria occasionally present. The fact that moisture in the skin interferes with the action of iodin, contra-indicates its use in many accident cases, in which, owing to the nature of the wound, it has been recommended as most advantageous. Basing their action on their experimental results, Tinker and Prince are now using Harrington's solution in the preparation of the patient's skin, applying it with friction for about two and a half minutes and sponging off with alcohol. In this way they avoid sloppy, wet surroundings of patients during operation. So far their results have been entirely satisfactory. Experience shows that the skin of some hands suffers from frequent long-continued applications of Harrington's solution; therefore in the preparation of their hands, Tinker and Prince continue to rely on the old time-consuming scrub, immersion in bichlorid of mercury solution, and a final cleansing in alcohol. From laboratory tests carried out during the past seven years, they know this to be efficient for any and all forms of bacterial life.

6. **Congenital Stenosis of Ureter.**—Eisendrath reports one personal case. A boy of 14, with no venereal infection or other previous illness, had sudden onset of all left-sided abdominal inflammatory signs. A sausage-shaped soft mass felt through the abdominal wall was shown to be the ureter dilated to the size of a small gut. Dilatation ended abruptly about 1½ inches above the bladder. The ureter distal to this point felt

hard and cord-like, but admitted a ureteral catheter. There were evidences of infection around the dilated portion. Eisendrath removed the latter, and a kidney showing marked evidences of infection and a moderate degree of hydronephrosis. After a careful study of the operative findings and consideration of the age of the patient and absence of any other source of ureteral obstruction, Eisendrath concluded that the stenosis of the lower ureter with subsequent dilatation of that portion above it, must have been present for many years, and could be best explained as of congenital origin.

8. **Placenta Prævia.**—A very detailed statistical study of 10,600 cases was made by McDonald and his findings are recorded *in extenso* in this paper.

10. **Pyloric Stenosis in Infancy.**—Eleven cases in which Richter personally operated, are here recorded. He has been doing the typical posterior operation, without any special modification in the technic, except in the use of suture material. He has always felt that surgeons are commonly in the habit of using suture and ligature material of a much heavier kind than is necessary or desirable for the purpose. In his gastro-enterostomies Richter is using size "O" or "A" silk, of the kind bought in the dry goods stores, in a No. 10 cambric needle. It seemed to him that the peritoneal adhesions in his first case were caused by seepage due to the rather heavy suture material used, and which probably had the capillarity of a wick. Before returning the stomach to the abdominal cavity he introduces fluids into the jejunum by passing a tube into the stomach and on through the new anastomotic opening into the jejunum; by using a funnel the child may be given a valuable dose of water at once. The same maneuver may be carried out in doing a divulsion of the pylorus, the catheter being passed through the stomach and pylorus directly on into the jejunum, and left in situ for the first few feedings after operation. In a case of congenital obstruction of the duodenum, Richter carried out this maneuver after relieving the obstruction, and found it could be easily accomplished. To F. X. Walls belongs the credit for conceiving these two procedures.

13. Also published in the *Texas State Journal*, December, 1910; abstracted in THE JOURNAL, Jan. 7, 1911, p. 73.

17. **Treatment of Stump in Appendectomies.**—In Greeley's method the meso-appendix being taken care of in the usual way, the appendix itself is used as a handle, enough tension being exerted on it to hold the cecal extremity in view; a fine cambric needle, threaded with fine linen or catgut is passed through all the intestinal walls at the appendicular base, and emerges again at a point about one-third of the distance around the appendicular base. The needle is again inserted through the opening just made or at a point close to its recent exit to take a second and similar stitch. A third stitch of the same character brings the ligature out again at the point of original entrance or at a place adjacent thereto. It is a modified purse-string suture with this essential difference: the ligature lies either entirely or almost within the lumen of the appendicular base. The loops at the two points of emergence are held in forceps, the appendix is next crushed and amputated and inverted into the triangle formed by the ligature within its lumen. A slight tension on the ligature at the three points of emergence renders this step easy. The tucker still holding the stump inverted, the ligature loops are gently loosened and the free ends tied. The stump is inverted within the bowel, and it is ligated. A second row of Lembert sutures insures strength and covers any raw surfaces left at the meso-appendicular field of operation.

Ohio State Medical Journal, Columbus

June

19 Dangers and Duties of the Hour. H. A. Hare, Philadelphia.
20 Some Pathologic and Surgical Considerations of Exophthalmic Goiter. A. Crotti, Columbus.
21 Cancer of Breast. W. E. Savage, Cincinnati.
22 Breech Presentations, with Special Reference to Mechanical Advantages of Elastic Bag in Their Management. W. Gillespie, Cincinnati.
23 Prostatectomy. E. O. Smith, Cincinnati.
24 Case Illustrating Importance of Early Recognition of Non-Inflammatory Glaucoma. J. E. Brown, Columbus.
25 Proportion in Practice of Oculist. L. K. Baker, Cleveland.

Bulletin of the American Academy of Medicine, Easton, Pa.

June

26 *The Hospital as a Factor in Training of Medical Students. F. F. Dow, Rochester, N. Y.
27 *Educational Value of Hospital Training for Medical Students. J. L. Heffron, Syracuse, N. Y.
28 Relation of the Hospital to the Community. C. W. Pardee, Buffalo.
29 *The Hospital as an Educator of the General Profession. B. Heckel, Pittsburg.
30 Importance of General Hospital in Education of Professi and Public. E. A. Vander Veer, Albany.

26. **Hospital as Factor in Training of Medical Students.** Dow ventures to predict that the day will come when t degree of doctor of medicine and license to practice will n be granted by the state without at least one or more yea of hospital student internship.

27. **Educational Value of Hospital Training for Medic Students.**—It is emphasized by Heffron that the ideal cond tion for hospital training for medical students is for the c lege to have its own hospital, and to have professors of gener medicine and of general surgery who shall devote their enti time to clinical instruction in the hospital and who are n obliged to resort to outside practice for the support of the families. The educational value of hospital training for me ical students, therefore, depends entirely on the way su training is carried out. The genius of clinical teachers mu be depended on to bring their methods up to the standa set by their confrères in the subjects on which the scien and art of medicine are founded.

29. **The Hospital as Educator of General *Profession.***—Th hospital has a catalytic action or influence on the genera profession, says Heckel. There is a certain undefinable som thing in the very atmosphere which is always lacking in community not blessed with a hospital. The presence of hospital in a community is always reflected in the genera profession, which is more wide-awake, up-to-date, mor observing, more studious, a better profession. It may b impossible to point out any one real educational value, ye it is there. If it does nothing else it compels the men wh do work there to do their best, because their work is mor or less open to inspection and their results the topic of con versation and criticism by the general profession. Hecke says further that there should be a closer intimacy betwee the hospital and the general profession in order to have th hospital fulfil its greatest function.

Journal of the Arkansas Medical Society, Little Rock

May

31 Brain Syphilis. J. H. Chesnutt, Hot Springs.
32 Exophthalmic Goiter. H. H. Kirby, Little Rock.
33 *Wassermann Reaction. M. F. Mount, Hot Springs.
34 Psoriasis—Diagnosis and Treatment. W. Frick, Kansas City, Mo.
35 Acute and Chronic Cholecystitis. J. M. Smith, Hot Springs.

33. Abstracted in THE JOURNAL, June 11, 1910, p. 1992.

Journal of Biological Chemistry, Baltimore

June

36 New Decomposition Product of Keratin Which Gives Millon's Reaction. R. A. Gortner, Washington, D. C.
37 Creatin and Creatinin Metabolism in Dogs with Eck Fistula. N. B. Foster and H. L. Fisher, New York.
38 *Presence of Iodin in Human Hypophysis. W. Denis.
39 Oxidation of Amino-Acids. W. Denis.
40 Action of Gastro-Intestinal Juices on Nucleic Acids. P. A. Levene and F. Medigreceanu, New York.
41 Nucleases. P. A. Levene and F. Medigreceanu, New York.
42 *Process of Acid Excretion. L. J. Henderson, Boston.
43 Products of Hydrolysis of Wheat Gliadin. T. B. Osborne and H. H. Guest, New Haven, Conn.

38. **Iodin in Human Hypophysis.**—Twenty-one human pituitary bodies which had been kept in absolute alcohol for several months before use, were dried, the alcohol in which they had been preserved evaporated to dryness in the presence of a small amount of sodium hydrate, and the residue so obtained fused with the dried tissues. Sixteen pituitaries taken from patients who had received no iodids before death had, when dried, a total weight of 1.50 gm. and on fusion

gave no trace of iodin. From five hypophyses obtained from the bodies of individuals who had received iodids before death, which had a total weight, when dry, of 0.49 gm., Denis could also obtain no trace of iodin. He was unable to obtain any data as to how long before death the last dose of iodids was administered to the patients from whom these pituitaries were taken.

42. **Process of Acid Excretion.**—Henderson believes that the preservation of the normal alkalinity of the body is due, in great measure, to but two independent factors, excretion of ammonia and excretion of phosphates. The elaboration of ammonia and the presence of phosphoric acid as an end-product of metabolism makes possible the excretion of acid; regulation of ammonia production and of the ratio of the acid to the alkaline phosphates of urine are the means of regulating the acid secretion.

Interstate Medical Journal, St. Louis

June

44 The [illegible] Changes in Volume of Heart. A. D.
45 Chro[illegible] Adami, Montreal.
46 Displacements of Heart. F. M. Pottenger, Monrovia, Cal.
47 Use of Roentgen-Rays for Examining the Heart. F. M. Groedel, Bad Nauheim, Germany.
48 Treatment of Chronic Disease in Childhood. I. A. Abt, Chicago.
49 Hydrotherapeutic Treatment of Heart Disease. J. M. Swan, Watkins, N. Y.
50 Tonsils and Heart Disease. A. H. Belfeld, Chicago.
51 Newer Heart Remedies. W. F. Boos and C. H. Lawrence, Boston.
52 Arteriosclerotic Changes in Abdominal Vessels. W. W. Hamburger, Chicago.

Cleveland Medical Journal

June

53 Ascites in Typhoid. A. McPhedran Toronto.
54 Trifacial Neuralgia. F. E. Bunts, Cleveland.
55 *Extra-Uterine Pregnancy at Full Term with Autopsy Eighteen Years Later. N. S. Scott, Cleveland.
56 *Michel's Clamps for Closing the Skin Incision. H. Robb, Cleveland.
57 Retropositions of the Uterus in Which Anterior Replacement Is Contra-Indicated. C. D. Williams, Cleveland.
58 Technic of Radical Mastoid Operations. W. H. Tuckerman, Cleveland.
59 Coagulation of Lymph in the Semicircular Canals. D. A. Prendergast, Cleveland.
60 Fibroid of Nasopharynx. I. A. Tripp, Cleveland.

55. **Extra-Uterine Pregnancy.**—Scott's case illustrates the fact that an extra-uterine pregnancy, after going to full term, may continue to harass the patient even for eighteen years; that it is a constant source of danger and ultimately proves fatal by the inflammatory involvement of important organs. It demonstrates the fact that the fetus which has lived the full nine months does not necessarily die at the time of the false labor but may live for at least ten days longer. The patient became pregnant in the fall of 1891; she noticed nothing of especial significance during the pregnancy, although she did have considerable pain during the early months. At the end of the nine months, labor pains came on and lasted two days, when after the extrusion of a small amount of tissue or clots from the uterus, they ceased. A few days after the cessation of the labor pains, Scott was called in consultation. The fetus was easily palpable and at this time the motions were quite vigorous. The heart-beats were distinct and could easily be made out the last time he saw her, ten days after the pseudo-labor. A diagnosis of a left-sided extra-uterine pregnancy, with a living fetus was made, and an immediate operation advised but refused.

In 1910, Scott made a post mortem on the widow of an old soldier and was surprised to find that she was the woman previously mentioned, whom he had not seen for eighteen years. On opening the abdomen the organs in the upper part of the cavity were apparently normal, but the pelvis was entirely sealed off by firmly organized lymph. No trace of any of the pelvic organs could be made out; all were apparently covered over. Into this mass dipped the rectum and to it the omentum was universally adherent; there were slight intestinal adhesions, with the exception of those of the rectum, and these did not interfere with the functions of the small intestines. The uterus was found to be to the right; the bladder was thick-walled, inflamed and contained about 2 ounces of turbid urine. To the left of the uterus was a cavity containing a quart or more of fetid pus and a mass of offensive material judged to be the remains of the fetus, although it did not contain any bones. Leading from this cavity to the rectum was a large, oval opening, 1/3 of an inch wide by 1 inch long, with a thick, firm margin. From this fistulous opening to the anus the rectum was intensely inflamed; from the fistula upward the rectum was also inflamed for a considerable distance, but slightly, when compared with the condition below the fistula. The kidneys were the seat of Bright's disease, which was the cause of death and which had been due to an ascending infection from the bladder. In the vagina was a large inflamed fibroid, having its origin in the posterior lip of the cervix. This was a condition which had arisen since the time Scott saw her when living. From the post-mortem examination it was evident that she had had a left-sided abscess which had ulcerated into the rectum and from which the excess of discharge could flow into the rectum; and that through this the fetus was discharged piecemeal when it disintegrated as a result of the septic process. There was present a severe cystitis, proctitis and nephritis. A plastic exudate entirely covered the pelvic organs, making adhesions between them and the neighboring loops of intestines and omentum.

56. **Michel's Clamps for Closing Skin Incision.**—Robb's results in the 182 cases in which he has used the clamps are, on the whole, satisfactory. The total number of incisions healed by first intention was 112, or 78 per cent. Sixteen of these, however, showed a slight amount of serum around one or two clamps. There were seventeen incisions showing pus around one or two clamps, or 12 per cent., and fifteen incisions showing pus and serum around one or two clamps, or 10 per cent. There were, in all, twelve cases showing pus or pus and serum which was sterile, or 8.3 per cent.

Medical Herald, Kansas City, Mo.

June

61 One Hundred Cases of Syphilis Treated with Salvarsan. E. D. Holland, Hot Springs.
62 Use of Roentgen-Ray After Operation. R. D. Mason, Omaha, Neb.
63 Fracture of Fibular Malleolus. E. H. Skinner, Kansas City.
64 Fractures. J. P. Lord, Omaha, Neb.
65 Delirium Following Chloroform Habit. S. G. Burnett, Kansas City.
66 Tetanus and Its Relation to Fourth-of-July Accidents. W. L. Gist, Kansas City.
67 Simple and Inexpensive Apparatus for Intravenous Injection of Salvarsan. E. L. Stewart, Kansas City.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

June

68 *Whitehead Operation for Hemorrhoids. A. McGlannan, Baltimore.
69 *Thyroid Heart or Exophthalmic Goiter. A. G. Brown, Richmond.

68. **Whitehead Operation for Hemorrhoids.**—McGlannan favors this operation and reports very excellent results from its use. He has departed from Whitehead's dicta in some particulars. For instance, instead of using a belladonna suppository, he uses an opium and hyoscyamus suppository. A rubber tube wrapped with gauze and lubricated was used in certain of the cases because of oozing. This plug is not mentioned by Whitehead. McGlannan says that the patients were made decidedly more uncomfortable by its use, and that its value as a hemostatic is slight. The most persistent vesical disturbances in his series occurred in a patient who wore the plug for four days and required the use of the catheter seven times during this period. With the removal of the plug, voluntary voiding returned. He has had no recurrence and no strictures. In two cases only was there a failure of primary union, both in old people with markedly sclerosed arteries. In one of these patients the thrombosed and sclerotic branches of the artery were noted at the operation. Two patients had fecal incontinence lasting six days and two weeks respectively. At the present time both have perfect control. He has had no postoperative pruritus. Urinary retention requiring catheterization occurred in ten cases; four patients were catheterized at once; the longest time that this assistance was required was seven times in four days. The

average was three times in twenty-four hours; patients voiding voluntarily thereafter.

For comparison, the postoperative record of five hospital cases, operated on by clamp and cautery (three) and by ligature (two) shows that four of these five patients required catheterization, the longest time being three days, with an average practically the same as that given above.

As an index of the postoperative discomfort, McGlannan has studied the amount of morphin or other anodyne given. In the Whitehead cases, the average quantity was 2/5 grain of morphin, the largest was 1 grain given in three doses during two days. The longest time during which the drug was required was two days. None of these patients had any other anodyne. In the other series the average dose was 1 grain, the average time two and one-half days, the shortest, two. Two of the Whitehead cases did not require any postoperative anodyne. In his most recent cases, McGlannan has inserted a suppository of ¼ grain extract hyoscyamus and ½ grain powdered opium into the rectum before applying the dressings. This suppository, suggested by Whitehead in his original paper, has proved very valuable in lessening the amount of postoperative pain and the vesical incompetence.

69. **Thyroid Heart.**—The chief purpose of Brown's paper is to point out that there are conditions perfectly amenable to medical treatment due to a state of hyperthyroidism and hypothyroidism, and that the practitioner must be more alert to interpret that group of more or less indefinite but yet marked symptoms characterizing these cases before the gross pathologic malformation of the thyroid, protruding eyeballs and enlarged (frequent) heart occur.

Northwest Medicine, Seattle, Wash.

June

70 Anterior Poliomyelitis. R. L. Gillespie, Portland, Ore.
71 Infantile Paralysis. C. F. Eikenbary, Spokane, Wash.
72 Surgical Treatment of Infantile Paralysis. F. J. Fassett, Seattle, Wash.
73 Treatment of Acute Poliomyelitis. J. C. Schapps, Butte, Mont.
74 Cesarean Section—Its Present Indications. G. R. Kunz, Tacoma, Wash.
75 Gastric Tetany. J. C. O'Day, Portland, Ore.
76 Significance of Gastric Hypersecretion and Pyloric Spasm. K. Winslow, Seattle, Wash.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

June

77 *Cause and Significance of Tubal Rupture in Extra-Uterine Pregnancy. C. W. Barrett, Chicago.
78 *Unfavorable Influence of Pregnancy on Chronic Progressive Deafness. S. M. Brickner, New York.
79 *Influence of the Automobile on Obstetric and Gynecologic Conditions. J. C. Edgar, New York.
80 *Complete Procidentia in Nulliparous Woman. Lack of Physical and Mental Development. C. O. Kepler, Boston.
81 Cesarean Section for Impossible Labor Due to a Dermoid Cyst. W. P. Manton, Detroit.
82 *Toleration of Corset. R. L. Dickinson, Brooklyn, N. Y.
83 Appendix and Right Ovary and Tube. C. R. Hyde, Brooklyn, N. Y.
84 Diagnostic Significance of Disturbances of Consciousness in Childhood. L. Kerr, New York.
85 Hemiplegia Occurring During Pertussis. L. Kerr, New York.
86 Sequestrum of Labyrinth. F. T. Hopkins, New York.

77. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1132.

78. **Pregnancy and Chronic Progressive Deafness.**—Two cases of chronic progressive deafness, both showing marked deterioration during pregnancy, were the incentive which led Brickner to look into this matter. He found that the influence of pregnancy on women who are suffering from otosclerosis or chronic progressive deafness is a deleterious one, although the pathologic process is by no means clear. The deafness increases immediately on the advent of pregnancy, grows worse during gestation and remains permanently worse after delivery than it was before pregnancy began. Repeated pregnancies have the effect of rendering the hearing progressively worse. The interruption of pregnancy may preserve the hearing existing at any time; but it may accomplish no more than this, the hearing may subsequently continue to deteriorate. The obstetric treatment is the induction of abortion early in pregnancy, after it has been established unquestionably that the pregnancy is causing the hearing to become diminished. The right to render these women sterile is one that depends on individual cases and is a debatable question.

79. **Influence of the Automobile on Obstetric and Gynecologic Conditions.**—It is Edgar's belief that the unfavorable influence of the automobile on pregnancy has been somewhat exaggerated, and that undoubtedly the motor car is in many instances unfairly set down as a cause of a given abortion or miscarriage. He believes that the middle third of pregnancy is more liable to be interrupted from this cause than any other time. Several cases under his observation that appeared to be undoubtedly due to the automobile took place at the fourth, sixth and a half and eighth months, respectively. Certain women appear to be especially susceptible to the abortifacient influence of the automobile, and certain conditions within the pelvis appear to favor this influence. Patients have come under Edgar's observation who have had repeated miscarriages, which apparently were predisposed to, at least, by motoring. There is one type in particular, he believes, especially prone to the unfavorable influence of the vibration and the circulatory changes induced by excessive motoring. It is found in women with relaxed uterine supports not confined alone to multigravidæ, but frequently seen in primigravidæ, in whom even in the middle third of pregnancy there is a tendency to procidentia, and even after the uterus rises well out of the pelvis the presenting part hangs low. These are the cases in which, in primigravidæ and occasionally in multigravidæ, the head engages in the pelvis and descends well down toward the pelvic floor in advance of the fortieth week. Excessive motoring in these cases is liable to interrupt pregnancy. With limitations regarding speed and fatigue, Edgar even permits patients who have suffered from threatened abortion to use the automobile subsequently. In threatened miscarriage presumably caused by excessive motoring, his belief is that low implantation of the placenta is an important factor. On the whole the effect of automobiling seems to be either a negative or wholesome one.

80. **Complete Procidentia in Nulliparous Woman.**—Kepler believes that complete procidentia is more frequent in the nulliparous than has been formerly supposed. Approximately seventy cases have been reported in a scattering way in the literature, and the author has eighty certain cases that have been given him by correspondents, also one of his own and some uncertain ones without details that have been spoken of by others. It is usually acquired from congenital causes in infancy or youth but may be acquired later without any discoverable congenital defects. It is a true hernia of the sacropubic variety, generally beginning in Douglas' pouch by intestinal descent from intra-abdominal pressure. It is usually associated with congenital physical stigmata or degenerations. In a large proportion of cases it is found to be associated with mental perversions ranging all the way from the mildest hysteria to complete imbecility and idiocy. It can be treated by any one of a half-dozen or more operative procedures, depending on the degree and nature of the prolapse and the judgment of the operator.

82. **Toleration of the Corset.**—Corsets are classed by Dickinson as corrective, neutral and harmful. He maintains that the average corset still shows constriction of the waist line of the form if not of the degree of the hour-glass design. His observations contradict the claim that low abdominal girdling and "lifting" have taken the place of the waist-line pressure. Tests show that in two-thirds of the cases there was greater pressure at the waist than lower on the abdomen, one-third being equal. In thin women neutral conditions were general. Pressures on the lower ribs still ran high. In one-half the cases all pressures ran high. The spring or gap of the corset when unhooked gives an excellent practical measure of the amount of pressure exerted, 2½ inches being the most that should be tolerated. Comparison of the girth over the corset with that measured around the undershirt is worthless as an index of constriction. Interior tests showed little effect on increase in vaginal pressures in corseted women whose abdominal walls were firm, but they indicate a marked rise in intrapelvic pressure from exertion in corseted women whose

muscles are flabby and interior supports relaxed. The tight corset harms vigorous women little, weaker women greatly. Among postures one-half were found defective, one-third good. Alteration in or change of the corset often brought about marked improvement in attitude. A simple test consists in standing a patient with heels against a mark on the floor, and her side to the wall and noting the location of the scapula and buttock with and without the corset and any change for the better or worse in the center of gravity and in uprightness. Certain types of body form are particularly susceptible to defective corseting, such as the individual with the long and slender trunk. A very exhaustive study of the corset question was made by Dickinson.

New York State Journal of Medicine

June

87 *Therapeutics of Salvarsan. S. J. Meltzer, New York.
88 *Indications for Salvarsan in Syphilis. S. Pollitzer, New York.
89 *Analysis of Clinical and Serologic Results Obtained in Treatment of 175 Cases of Syphilis with Salvarsan. J. A. Fordyce, New York.
90 *Action of Salvarsan on Wassermann Reaction. H. Fox, New York.
91 *Few Plain Truths About Salvarsan. W. S. Gottheil, New York.
92 *Technic and Methods of Administration of Salvarsan. H. F. Swift, New York.
93 *By-Effects of Salvarsan. J. M. Winfield, Brooklyn.
94 New Operating Pavilion for Thoracic Surgery at German Hospital, New York. W. Meyer, New York.
95 Diagnosis and Treatment of Meningitis in Children. T. W. Clarke, Utica.
96 Secret Division of Fees. J. Brettauer, New York.
97 Two Cases of Prostatic Hypertrophy Successfully Treated with Roentgen-Ray and High-Frequency Currents. S. Tousey, New York.

87, 88, 89, 90, 91, 92 and 93. Abstracted in THE JOURNAL, May 6, 1911, pp. 1353 and 1354.

New York Medical Journal

June

98 Simple, Rapid and Complete Reduction of Deformity in Fixed Lateral Curvature of the Spine. E. G. Abbott, Portland, Maine.
99 *Endobronchial Treatment of Asthma. W. Freudenthal, New York.
100 *Operation for Relief of Tuberculous Peritonitis. A. Judd, New York.
101 *Injection of Magnesium Sulphate for Acute Articular Rheumatism. A. B. Jackson, Philadelphia.
102 Diagnosis of Tuberculosis in Its *Earlier and More Chronic* Form. O. F. Kunkel, Bells Camp, Pa.
103 Contagiousness of Pulmonary Tuberculosis. A. V. Meigs, Philadelphia.
104 Guidance and Protection of Children by the State. J. Rosenberg, New York.
105 In Memoriam: Christian A. Herter. J.C. Hemmeter, Baltimore.

99. **Endobronchial Treatment of Asthma.**—Out of a total of eleven asthma patients treated endobronchially by Freudenthal eight are considered as cured, three were greatly improved, and two showed no benefit whatsoever. The bronchoscope was used by Freudenthal not only for treatment purposes but to note the pathology present. In one case there was apparently a constriction of the trachea, which could not be overcome at the first bronchoscopy. The whole lumen was swollen and closed and could not be dilated by cocain. Freudenthal believes that this was one of those cases of spasm of the trachea described by Bruegelmann, which he considers to be due to an irritation of the respiratory center. In the bronchi such a spasm could be seen more often, but it generally disappeared after the application of cocain. This could be observed endoscopically, not alone by the opening up of the bronchus, but by the action of the muscular apparatus afterward. The ulceration found in one case has been described previously, and, so far, is the only one on record. In all cases he used bronchoscopy under local anesthesia. He invariably kept the patient in an upright position. These sittings were made in the morning, on an empty stomach whenever possible. Some pain always followed bronchoscopy. In some cases it lasted three or four days, in others only a few hours.

100. **Operation for Tuberculous Peritonitis.**—The operation done by Judd consists in an incision 3 to 4 inches in length through the sheath of the right rectus muscle. On examination of the viscera and parietal peritoneum, disclosing the diagnosis of tuberculous peritonitis, the patient is eviscerated so far as possible. The intestines being caught in a nest of hot, moist towels, are thoroughly washed with a solution of 50 per cent. commercial hydrogen peroxid. The abdominal cavity is then thoroughly flushed with the same solution, after which it is washed out with a normal saline solution equally thoroughly, as are also the intestines. These are then replaced in their proper position within the peritoneal cavity, and the same is closed with three layers of sutures. Some twenty-two patients have been operated on by Judd within the past four or five years, nineteen adults and three children. In nearly all cases the primary improvement was very marked. In some, the improvement was only temporary; in others a second operation was required to obtain the ultimate result. In only a few, four in number, and these in an advanced stage of the disease where the lungs or other organs were also considerably involved, was no improvement noticed.

101. **Magnesium Sulphate in Acute Articular Rheumatism.**—Five cases of articular rheumatism are reported by Jackson in which he had excellent results from the intramuscular injections of magnesium sulphate. The discovery of this active therapeutic agent in rheumatism was the result of a last resort. A number of other cases of rheumatism were treated with magnesium sulphate by injections, local applications and internally. So far, the results in all have been excellent. Jackson gives the salicylates a chance first, but, when they fail to give results, he employs the magnesium sulphate treatment. The only reason he has for doing this is that many patients, especially nervous women, will object to the injections until after other measures fail. No pain, however, follows the injection, because the drug acts as a local anesthetic. He has not yet noted any unfavorable signs from its use, despite the fact that we are told that magnesium sulphate injected into the circulation is a cardiac and a respiratory depressant. The technic is simple. Jackson employs an all glass Luer syringe of 5 c.c. capacity, observing all aseptic precautions, and selecting any muscle that is handy as the point of injection. At present he is using a 25 per cent. sterilized solution and injecting 4 c.c. into adults. Up to this time he has treated no children, but he says he should use it without hesitancy in the proportion of 1 c.c. of the 25 per cent. solution to each 25 pounds of body weight. In some cases the injections produce active purgation, and in others they have apparently no effect.

Iowa Medical Journal, Des Moines

June

106 Headache from Surgical Point of View. J. F. Percy, Galesburg, Ill.
107 Constitutional Headache. William H. Rendleman, Davenport.
108 Headaches as Related to the Eye and Nose. G. F. Harkness, Davenport.
109 Pneumococcus Meningitis with Deferred Pulmonary Symptoms. F. A. Ely, Des Moines.
110 Early Diagnosis of Tuberculosis. H. V. Scarborough, Oakdale.
111 Leukocyte Count in Diagnosis of Mixed Infection in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
112 Infantile Paralysis. J. P. Dougherty, Sioux City.

Canadian Medical Association Journal, Toronto

June

113 *Present Status of Conservative Gynecology. W. T. Gibb.
114 *Treatment of Typhoid by Vaccines. J. C. Meakins and L. S. Foster, Montreal.
115 Typhoid in the Winnipeg General Hospital. S. J. S. Peirce, Winnipeg.
116 *An Unclassified Tropical Fever. S. McGibbon, Calabacillas, Chih., Mexico.
117 Obliteration of Thoracic Cavities. E. M. von Eberts and W. H. P. Hill, Montreal.

113. **Conservative Gynecology.**—Gibb is of the opinion that gynecologic conservatism should, in the first place, imply the avoidance of operative interference whenever it is possible, and that, when surgical intervention becomes imperative, the preservation of an organ, or a portion of one, which may be free from disease and able to functionate, and whose integrity is so important to the woman, should be looked on as the height of gynecologic skill. The conclusions he has reached in the treatment of *gynecologic* cases are: Treat the case expectantly as long as there is the slightest chance for recovery. When operation is imperative save all the organs or parts of organs possible. A conservative operation is not necessarily an incomplete operation. Remove all the organs,

or parts of organs, that are so diseased that to save them would necessarily expose the patient to the dangers of a second operation. Except in extreme cases, or in those near or past the menopause, save the patient her function of ovulation, or, at least, leave her some part of her ovarian tissue to avoid the psychic disturbances which follow the total ablation of these organs.

114. Treatment of Typhoid by Vaccines.—Forty-one typhoid patients were vaccinated by Meakins and Foster. The vaccines were prepared from organisms isolated from the blood of typhoid patients. Autogenous vaccines were not used, although this would be a marked improvement and could be done if the cases were received early enough and vaccination became a routine in the treatment of typhoid. One c.c. contained ten hundred million typhoid bacilli, and was usually the initial dose. This is greatly in excess of the doses used by other workers, but in no case did any ill result follow the use of this amount. In every case a large erythematous patch developed around the point of inoculation, accompanied by pain and tenderness of a slight degree. In one case only was there a chill. These symptoms began to subside after twenty-four hours, and entirely disappeared after forty-eight hours. The second dose was usually fifteen hundred million, and the third dose was either the same or two thousand million. After the second or third inoculation little or no local reaction occurred. In no case was there any exacerbation of the typhoidal symptoms, but in twenty-four hours a distinct improvement was manifested, either in the general condition of the patient or the chart, and frequently in both. The average length of fever in the uninoculated was thirty-seven days, while in the inoculated it was twenty-eight days, or a diminution of nine days.

Many of the patients did not reach the hospital until late in the disease, as on the twenty-fifth, twenty-eighth, thirtieth, and ninety-fifth day respectively, while in other cases the inoculation was delayed on account of the absence of a positive Widal reaction. The authors claim that it is hardly fair, therefore, to judge the value of the vaccination as to its influence on the duration of the fever by these gross figures. However, if one analyzes the cases of patients vaccinated within the first two weeks, he finds the average time of fever to be twenty days, or a shortening of the course of the disease by two weeks. Of seventeen cases vaccinated during the first two weeks only three required a second inoculation, and the average duration of the disease in those cases receiving one dose was only seventeen days. A much more striking influence of the action of the vaccine is apparent when an estimate is made of the number of days of temperature after the vaccination was begun. Twenty-six patients received one dose, and the temperature returned to normal on an average of five days later. Eleven received two inoculations, and the average length of time of fever after the first injection was twelve days, while after the second injection it was four. The average interval between the inoculations was eight days. In the cases which received two injections, it was a constant observation that there was marked improvement in the condition of the patient after the first inoculation, while the second dose seemed to produce a crisis in 50 per cent. of the cases. The beneficial influence of the vaccines on the toxic symptoms was almost constant.

On analyzing these cases as to the occurrence of complications, most striking results are obtained. In the unvaccinated cases, complications of a severe character, namely, hemorrhage, perforation, cholecystitis, otitis media, periostitis and phlebitis, developed in 42 per cent., while in the vaccinated cases complications occurred in only 5 per cent. Relapse occurred in 13 per cent. of the untreated, and in 2.4 per cent. of the treated, while the mortality was 10 per cent. in the unvaccinated, and 2.4 per cent. in the vaccinated.

116. An Unclassified Tropical Fever.—Attention is directed by McGibbon to the existence in Mexico of a fever to which no reference is made in standard medical works. The disease appears to be at times quite contagious, usually affects adults, and is of very sudden ons [illegible] many respects remittent malaria. Soon after the onset the patient is prostrated, and almost invariably takes to bed. The temperature rapidly mounts to 39 or 39.5 C., or even 40 C., and is accompanied by occasional chills, severe headache and backache and frequently by pains in the limbs and other parts of the body. It is a non-exanthematous disease and the fever persists for a very variable period, varying from two to ten days, but usually lasting from four to seven days. It is not infrequently of the reverse type, and falls by a crisis as sudden as the onset. An uneventful convalescence is immediately established, and within two or three days the patient is usually well. The mortality from the disease is very low and complications of a serious nature are very rare. McGibbon has witnessed but one fatal termination in about two hundred cases. Gastro-intestinal symptoms are few and variable, consisting of very marked anorexia and occasional vomiting. Mild, toxic diarrhea is observed at times, and constipation with variable abdominal pains is frequently present. In patients suffering from tenia, the evacuation of a large part of the parasite not infrequently takes place, though not so often as in malaria. The nervous system is usually more seriously affected than is generally the case in malaria. There seems to be a greater tendency to delirium, and the patient suffers more mental anxiety, usually believing himself to be suffering from a very serious illness. The skin is hot and dry in the morning, moist in the afternoon, and perspiration is usually free before the crisis. Sweat rashes, such as miliaria and sudamen, are seen, and a very few cases of toxic erythema have been observed extending over the anterior thoracic region and, in one case, to the malar regions of the face. No jaundice or yellow sclerotics have been noticed. The respiratory system shows very few symptoms or physical signs. A very mild cough, due to slight catarrhal bronchitis, is present in a fair proportion of cases. Bronchopneumonia was the cause of death in the one fatal case that has come under McGibbon's observation. Nothing of interest was noted in the vascular system.

Kentucky Medical Journal, Bowling Green

June 15

118 Old and New Arts in Parturition. W. B. Doherty, Louisville.
119 Cases of Stone Impacted in Urethra in Male Children, with Rupture and Extravasation of Urine. W. C. Dugan, Louisville.
120 Ocular Tumors. A. O. Pfingst, Louisville.
121 Double Capsulation for Anuria and Ventral Hernia. J. H. Peak, Louisville.
122 Mediastinal Tumor, Gumma or Aneurysm? W. C. Dugan, Louisville.
123 Leukoplakia Buccalis. M. L. Ravitch, Louisville.
124 Case of Neuritis. S. S. Prather, Louisville.
125 Parovarian Cyst Weighing Forty-Eight and a Half Pounds. A. M. Vance, Louisville.
126 Submucous Fibroid of Uterus. J. W. Price, Louisville.

Journal of American Public Health Association, Columbus, O.

May

127 *Experiments on Removal of Oysters from Polluted to Unpolluted Waters. E. B. Phelps, New York.
128 The Prevention of Blindness. S. E. Eliot.
129 American Civic Association and Its Relation to Public Health. R. B. Watrous.
130 Child Labor and Public Health. E. N. Clopper.
131 American Medical Association and Its Relation to Public Health Work. William C. Woodward, Washington, D. C.
132 National Housing Association and Its Relation to Public Health. L. Veiller, New York.
133 National Association for Study and Prevention of Tuberculosis. L. Farrand, New York.
134 History and Chemistry of Disinfectants. William Dreyfus, New York.
135 Testing of Liquid Disinfectants. H. Albert, Iowa City.
136 *Quarantine or Isolation in Diphtheria? J. Roberts, Hamilton, Ontario.
137 Registration of Births. F. D. Beagle, New York.
138 Modern Board of Health Methods in a Small Town. C. K. Blanchard, Wellesley, Mass.
139 Modern Board of Health Methods in Small Cities. S. M. Gunn, Boston.
140 Relation of Illuminating Gas to Public Health. W. T. Sedgwick and F. Schneider, Boston.

127. Removal of Oysters from Polluted to Unpolluted Waters.—In order to determine, if possible, the minimum time that must elapse after oysters are removed from sources that are seriously polluted to clean waters, before they are freed from all evidences of pollution and therefore safe for use, certain experiments were undertaken by Phelps in cooperation with an oyster producer. It was obvious from these experiments that surely within four days, and possibly within a shorter period of time, a healthy oyster transplanted from polluted to clean waters will rid itself of the evidences of pollution, and Phelps says one may justly argue from this that the sewage material which is always associated with *B. coli*, and of which the latter is taken as an index, have also been eliminated.

136. Abstracted in THE JOURNAL, Sept. 24, 1911, p. 1137.

Lancet-Clinic, Cincinnati

June 24

141 Salvarsan in Syphilis. M. L. Heidingsfeld, Cincinnati.
142 Some Trends in Medical Education. M. M. Fischer, Cincinnati.
143 Treating Symptoms. W. F. Waugh, Chicago.

Pennsylvania Medical Journal, Athens

June

144 Treatment of Stab Wounds of the Chest with Intratracheal Cannula for Use with Any Positive Pressure Apparatus. G. M. Dorrance, Philadelphia.
145 *Present Status of Psychotherapy. E. E. Mayer, Pittsburg.
146 *Traumatic Neurosis. J. L. Salinger, Philadelphia.
147 *Mental Disturbances Following Traumatism. A. Gordon, Philadelphia.
148 *Early Diagnosis of Pulmonary Tuberculosis. A. Stengel, Philadelphia.
149 *The Open-Air School. W. C. White, Pittsburg.
150 Double Choked Disk from Increased Intracranial Pressure. Congenital Absence of Both Inferior Recti Muscles. E. Stieren, Pittsburg.
151 Insanity in Pennsylvania. H. A. Davis, Altoona.
152 Report of the Tuberculosis Situation in Pennsylvania in 1909. J. B. Deacon, Philadelphia.

145, 146 and 147. Abstracted in THE JOURNAL, Nov. 5, 1911, p. 1672.

148 and 149. Abstracted in THE JOURNAL, Oct. 29, 1911, p. 1581.

Journal of the Delaware State Medical Society, Wilmington

June

153 Physical Examination of the Chest, with Special Reference to the Heart. W. Wertenbaker, New Castle.
154 Arteriosclerosis. H. F. Stubbs, Wilmington.

New Mexico Medical Journal, Las Cruces

June

155 Vertigo and Some of Its Causes. F. M. Smith.
156 Treatment of Ileocolitis. C. M. Mayes.
157 Diagnosis of Early Tuberculosis. L. A. Dickman, Clovis.
158 Preventing Spread of Tuberculosis. S. L. Burton, Albuquerque.
159 Symptomatic Treatment in Tuberculosis. C. T. Sands.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 17

1 Where Chemistry and Medicine Meet. A. E. Garrod.
2 *Toxemia of Pregnancy and Hemorrhage. R. Davies-Colley.
3 Preparation of Various Foodstuffs, Especially Wheat and Rice. E. S. Edie and G. C. E. Simpson.
4 Average Height and Weight of English School Children. A. W. Tuxford and R. A. Glegg.
5 Diagnostic Value of Rachicentesis. J. Rae.
6 *The Blood in Sympathetic Ophthalmia. C. P. Jones and S. H. Browning.
7 Bonesetting and Treatment of Painful Joints. F. Romer and L. E. Creasy.

2. **Toxemia of Pregnancy and Hemorrhage.**—Investigation of the records of a series of cases of toxemia of pregnancy at Guy's Hospital during the last eleven years has shown Dr. Davies-Colley that hemorrhage in one form or another is not a very infrequent symptom of the disease, and that in some cases it may be so great as to constitute its principal feature. To his mind, conclusive evidence is shown of the causal relationship between toxemia and this form of hemorrhage. A small group of cases occurred in which hemorrhage, not from the uterus, was so severe as to be a very great source of danger to the patient, and, so far as Dr. Davies-Colley could gather, no similar condition has hitherto been described in association with toxemia of pregnancy. The cases of hemorrhage fall into three groups. 1. Hemorrhage from the kidneys. Among the thirty-six eclampsia patients treated, hematuria was present in ten, and of these patients, six died—that is, 60 per cent.—while of the total number only eleven died, or 30.5 per cent. It is, therefore, clear that hematuria has a grave prognostic significance in eclampsia. II. Hemorrhage from the uterus. Thirteen patients with concealed accidental hemorrhage were treated, and of these eight, or 61.5 per cent., presented symptoms of what was taken to have been toxemia of pregnancy; surely more than could possibly be accounted for by coincidence. On the other hand, in thirty cases of external accidental hemorrhage, in only one were there signs of toxemia. III. Purpura, and hemorrhage from the mucous membranes. In these cases the hemorrhage was an obvious outward symptom of the disease, and of such an amount as greatly to increase the gravity of the condition, and in one case, at any rate, to be the principal cause of death. Three cases occurred, all of the patients being between the ages of 20 and 30. Two were primiparæ, and one was pregnant for the second time. Two of the patients died, while the third recovered only after being comatose for four days. The symptoms were those of an acute toxemia occurring in the later months of pregnancy, and consisted of persistent vomiting, which lasted for periods varying from four days to several weeks, followed by the more or less sudden onset of coma during or shortly after labor. The hemorrhage was from the stomach and intestines in all three cases, while in two cases purpura and hemorrhage from the gums also occurred. In all cases it was severe enough to cause profound anemia, while in one case it was undoubtedly the chief cause of death. From the presence of severe vomiting in each case, of jaundice in the patient who recovered, and of the very extensive changes in the livers of those who died, Dr. Davies-Colley says that it would appear that the toxemia was in the main hepatic in origin.

6. **Blood in Sympathetic Ophthalmia.**—From figures given by Jones and Browning it appears that in all cases the lymphocytes are increased in absolute number per cubic millimeter on an average for the nine cases studied by them of about 30 per cent., the range of increase varying from 2 per cent. to 42 per cent. The large mononuclear cells are increased in absolute numbers per cubic millimeter on an average for the nine cases of 170 per cent., the range of increase varying from 68 per cent. to 488 per cent. The polymorphonuclear leukocytes are in all cases diminished in absolute number per cubic millimeter on an average of about 30 per cent., the range of diminution varying from 10 per cent. to 51 per cent. This type of blood is found in protozoal infections. With this view it was desirable to exclude the possibility of syphilis, and in six cases Wassermann's test was applied, and in each instance gave a negative result.

The Lancet, London

June 17

8 Pyelography and Early Diagnosis of Dilatation of Kidney. J. W. T. Walker.
9 Vaccination in Regard to Life Assurance. W. H. Jalland.
10 Salvarsan in Syphilis. A. Fleming and L. Colebrook.
11 Post-Anesthetic Vomiting. J. D. Mortimer.
12 *The Causation of Infective Endocarditis. J. A. Venning.
13 Sanatoriums from Within. J. E. Esselmont.
14 *Case of Recurrent Carcinoma of Parotid Gland Treated with Coley's Fluid. E. R. Hunt.
15 Investigation of Certain Substances Used in Coloring Foods. S. Rideal.

12. **Causation of Infective Endocarditis.**—Venning says that if rheumatism is due to a streptococcus, and infective endocarditis, which is a septicemia, has from all statistics a close relation to rheumatism, it is, at any rate, possible that the diplococcus of rheumatism and the microorganism in some cases of infective endocarditis are of the same species. Venning undertook the examination of 100 cases to see whether by clinical and post-mortem examination there is any confirmation of the view that there is an added infective endocarditis. In 58 cases of the 100 there were old cardiac lesions, as shown by the necropsy. Of the remaining forty-two there was doubt in eight cases. In twenty-seven cases there was an infective focus from which it might reasonably be supposed that the septicemia arose. Of these twenty-seven cases there was a rheumatic history in seven and there were old cardiac lesions in ten. Of the remaining seventy-three there was a rheumatic history in fifty-two cases and old cardiac lesions in forty-eight, and in nine of the remainder it was

doubtful as regards old cardiac lesions. These figures bring out one point strongly. In the twenty-seven cases in which an infective focus was found, and which no one could reasonably call rheumatic in origin, there is a history of rheumatism in seven out of twenty-seven—i. e., 25.9 per cent.—while in the seventy-three in which no infective focus was found there was a rheumatic history in fifty-two cases—i. e., 71.2 per cent. Again, in these twenty-seven cases there were old cardiac lesions in ten—i. e., 37 per cent.—while in the remaining seventy-three they were present in forty-six—i. e., 63 per cent. To examine more closely the seventy-three cases in which there was no infective focus demonstrable, there was a rheumatic history in fifty-two out of the seventy-three cases—that is to say, there was a previous history of rheumatism, or the final illness commenced with rheumatism, taking as rheumatism a history of pain and swelling of joints, or endocarditis, or chorea. Of these fifty-two cases, the rheumatism passed, so far as one could judge, insensibly into infective endocarditis in thirty-two cases—i. e., 61.5 per cent. One point which is brought out by the history of these cases is that, though the patient may be apparently recovering from the attacks of rheumatism and may lose all pain in the joints, nevertheless from the after-history the endocarditis must have been progressing insidiously. Thus, there are in this series several examples of patients who were admitted for acute rheumatism and improved to such an extent as to leave the hospital, but who returned in the course of a month or two to die from infective endocarditis. The majority of these patients had suffered from rheumatism at some time previous to their final illness, and so on admission had signs of endocarditis, and post mortem the valves showed old-standing lesions. Venning points out that the causation of these cases is very varied, but the evidence adduced, both from the bacteriologic work of Poynton and Paine, and from that obtained by the study of this series of cases, is, Venning believes, in favor of the view held by Osler in 1885—namely, that infective endocarditis, supervening in the course of some particular disease as rheumatism or pneumonia, may be regarded as directly produced by the causes which have excited the original disease.

14. **Coley's Fluid in Recurrent Carcinoma of Parotid.**—A man, aged 54, had a large malignant growth in the right side of the neck, apparently originating in the right parotid. The history showed that twenty-five years previously he was operated on for a tumor in the neck. The tumor recurred thirteen years later and slowly became larger and more painful. In April, 1910, lymph-nodes were removed. These were closely connected with the parotid. It was considered impracticable to remove the whole growth. The report of a microscopic examination of the tissue removed stated that this was a very fibrous carcinoma of scirrhous type. There was no trace of any glandular structure of any kind. Apart from this tumor the patient's health had been good. The injections of Coley's fluid were begun and continued on alternate days in gradually increasing doses for two months, when the final injection of 7 ♏ was given. In all the patient had some nineteen injections. He gradually became weaker, ultimately passing into a semicomatose condition and expiring soon after. The following points are noteworthy: 1. The complete relief of pressure symptoms and the very marked relief of pain, which Hunt says can be attributed only to the action of the Coley's fluid in causing the sloughing away of the greater part of the tumor. The comparative freedom from pain is attested by the very few doses of sedative mixture which were taken by the patient, although he was always provided with the medicine and instructions were given that he should be allowed a dose whenever necessary. Although the injections were unsuccessful in effecting a cure, yet the relief afforded was very gratifying, and the patient's death was a comparatively peaceful and painless one, in place of the agony of slow suffocation which at one time seemed probable. 2. The low temperatures are interesting. In spite of steadily increased doses of the fluid, nothing like the reaction aimed at (103 F.) was obtained. 3. The case seems to show that in some cases of carcinoma Coley's fluid may have a marked action.

Glasgow Medical Journal

June

16 Roentgen-Ray Treatment of Ringworm of the Scalp. J. G. Graham.
17 Physical Methods in Treatment of Chronic Constipations, Sinusoidal Currents. T. D. Luke.
18 Case of Associated Cutaneous and Gastro-Intestinal Anthrax. G. B. Fleming and M. J. Stewart.

British Journal of Children's Diseases, London

June

19 *Relation of Nasal Obstruction to Articulatory Capacity. E. Jones.
20 Benign Cyst of the Tibia. H. A. Ledlard.
21 Three Cases of Enlarged Thymus in Infants. R. Waterhouse.

19. **Nasal Obstruction and Articulatory Capacity.**—In his examination of the consonantal articulatory capacity of 700 children and its relationship to the degree of nasal obstruction existing, Jones found that in average school children (469 cases, 106,500 tests) the articulatory capacity for consonants varies with the degree of nasal obstruction. The dependence of the capacity on this factor is not very close, but is much more decided with boys than with girls. The incidence of nasal obstruction being equal in the two sexes, it would seem that a given degree of it produces, through partial deafness or in some other way, a more harmful effect on the *articulatory capacity of boys than on that of girls.* This is in harmony with the author's hypothesis, previously put forward, that hearing is more essential in the acquirement of speech with boys than with girls, the latter making use of a second channel of education, lip-reading, which is shut to boys. In children with gross articulatory defect or dyslalia (231 cases, 52,000 tests) no correlation whatever was found between the extent of this defect and the degree of nasal obstruction present. Investigation of a larger series might reveal a slight correlation, but nasal obstruction is evidently not an important cause of dyslalia in general, and any action it may have is readily obscured by that of more important factors.

Journal of Laryngology, Rhinology and Otology, London

June

22 Improved Technic of Thiersch Graft Following Radical Mastoid Operation. C. F. Welty.
23 Turbinal and Sinus Function. J. Adam.
24 Otosclerosis. G. Brühl.
25 Endothelioma of the Frontal Bone. N. Maclay.

Medical Press and Circular, London

June 7

26 Cause and Prevention of Decay of Teeth (to be continued). A. S. Dutton.
27 The Insurance-Against-Sickness Bill. R. R. Rentoul.
28 *Nature and Treatment of Chorea. C. F. Coombs.

June 14

29 Intestinal Obstruction. J. R. Morison.
30 *Seasickness and a Remedy. T. M. Kendall.
31 Cause and Prevention of Decay of Teeth (concluded). A. S. Dutton.
32 Lesions of the Vermiform Appendix and the Female Pelvic Organs. D. Duff.

28. **Nature and Treatment of Chorea.**—According to Coombs, chorea is an organic disease implicating the cells of the cortex cerebri, and those of the midbrain and pontomedullary nuclei in a less severe degree; that it is due to the action of rheumatic toxins on these cells; that all parts of the cortex suffer equally, and therefore the disease should not be regarded as one of motion only; and that, in spite of its extraordinary persistence, due to repetition of active phases, the general tendency is toward recovery. The motor symptoms are partly due to loss of inhibition, partly to cortical irritation. In chorea the fallacy of the distinction between "functional" and organic nervous disease is exemplified. Chorea can be fatal without the occurrence of meningeal inflammation. This fact, with the phenomena of latent chorea, suggests that chorea may be due to direct intoxication rather than gross infection of the cranial contents. The tendency of chorea is toward restoration of health to the brain. Treatment consists of (a) removal of the cause, active rheumatic infection, by rest in bed with administration of salicylates during the active stages; (b) prolonged mental and bodily rest during convalescence; (c) improvement of general health by fresh air, full diet, and tonics; (d) quieting of excessive movement by sedative drugs or packs, and cure of paresis by massage. The full-dose arsenical treatment is useless.

30. **Sea-Sickness.**—Kendall tried menthyl valerianate and obtained complete relief from his seasickness.

Australasian Medical Gazette, Sydney

May 20

33 The Central Western Medical Association. R. Bowman.
34 Salvarsan in Syphilis. A. E. Finckh.
35 Salvarsan in Syphilis. Sixty-Five Cases Treated at Coast Hospital, Sidney. R. J. Millard.
36 Treatment of Nasal Obstruction. T. K. Hamilton.
37 Asthma in Relation to Nose. M. Jay.
38 Nasal Obstruction: Its Varieties and Effects. R. Pulleine.
39 Epidemic Febrile Diseases Prevalent in Brisbane. A. G. Butler.
40 Recent Epidemic of Dengue in Brisbane. K. Scott.
41 Recent Epidemic of Dengue in Queensland. G. Davidson.
42 Case of Secondary Syphilis with Acute Yellow Atrophy of Liver. R. J. Millard.
43 Pathology of Some Cerebrospinal Fluids. H. Tebbutt.
44 History of Disease in Australia. J. B. Cleland.

Annales de l'Institut Pasteur, Paris

May 25, XXV, No. 5, pp. 369-432

45 Fermentation Is Digestion. (Les phénomènes de fermentation sont des actes de digestion. Nouvelle demonstration apportée par l'étude de la dénitrification dans le règne végétal.) P. Mazé.
46 Anaphylaxis and Antianaphylaxis to Egg Albumin. A. Besredka and J. Bronfenbrenner (New York).
47 Influence of Salvarsan on the Blood Count. (De l'influence de arsénobenzol sur la formule leucocytaire du sang.) W. L. Yakimoff.

Annales de Médecine et Chirurgie Infantiles, Paris

June 1, XV, No. 11, pp. 337-364

48 Dysphagia in Children. E. Périer and Gaujoux.

Archives des Maladies de l'App. Digestif, Paris

May, V, No. 5, pp. 229-288

49 Pathogenesis of Gout and Recent Research on the Metabolism of the Nucleoproteids. G. Linossier.

Archives de Médecine des Enfants, Paris

April, XIV, No. 4, pp. 241-320

50 *Deformity of the Knee After Tuberculous Arthritis. (Les déviations du genou dans la tumeur blanche. Causes. Prophylaxie.) C. Ducroquet and V. Veau.
51 Physicochemical Characteristics of Infants' Saliva. G. B. Allaria.
52 Exanthem After Vaccination of Children. M. de Biehler.

May, No. 5, pp. 321-400

53 *Diphtheria Antitoxin in Prophylaxis. (De la valeur des injections préventives du serum antidiphthérique.) W. Markuson and W. Agopoff.
54 Verrucous and Pustular Tuberculosis of Entire Leg. A. Trèves and G. Schreiber.

50. Deformity of the Knee After Disease.—Ducroquet and Veau describe the mechanism which leads to ankylosis in a defective position and the means to prevent this. In the normal gait the knee is flexed; this equalizes the length of the limbs, as the free leg would be too long if it were not flexed to bring it forward into place. The pelvis sags on the free side, as it is not held up by the support of the leg, while the weight of the foot drags down the tip—both factors cooperating to make the free leg longer than the leg bearing the weight of the body. With a tuberculous knee, flexion is painful and is avoided; the leg is not flexed, but is twisted outward, which shortens it as needed, but has the disadvantage that the knee becomes fixed in a deformed position—genu valgum. To ward off this deformity it is necessary to apply an immobilizing apparatus reaching from the ischium (to prevent flexion) and the *greater trochanter* (to prevent abduction), down to the posterior surface of the calcaneum (to prevent flexion) and the *external malleolus* (to prevent abduction). This immobilizing apparatus should be applied as soon as the affection is diagnosed. As long as there is pain the child should be kept in bed. After six months to a year a walking apparatus should be applied under close supervision, and by the end of another year the tuberculous process may be regarded as cured.

53. Preventive Injections of Antitoxin.—Markuson and Agopoff state that their experience with antitoxin injected to protect children with measles against diphtheria was disappointing. The injections did not render the infants immune or modify the severity of the disease. Of 1,178 children in the measles wards treated with antitoxin, 2.12 per cent. developed diphtheria in the first week, 2.04 in the second, 0.51 in the third, 0.26 in the fourth and 0.17 per cent. after the fourth week. The corresponding percentages for the 1,156 children not injected were smaller, being, respectively, 1.56, 1.73, 0.52, 0.78 and 0.43 per cent. The mortality averaged 36.6 per cent. in the first group, and 32.3 in the other.

Lyon Médical, Lyons

May 21, CXVI, No. 21, pp. 907-960

55 Generalized Melanosis Originating in the Rectum. P. Bonnet and A. Challer.

May 28, No. 22, pp. 961-1000

56 *Laparotomy for Irreducible Retroversion of the Uterus. Goullioud.

56. See The Journal, July 8, Abstract 46.

Presse Médicale, Paris

June 7, XIX, No. 45, pp. 471-476

57 *Diagnostic Importance of Nephralgia. P. Bazy.

June 10, No. 46, pp. 477-492

58 Treatment of Congenital Varus Equinus. P. Desfosses.
59 Conception Through the Ages of Fever. (La fièvre.) L. Meunier.

57. Nephralgia.—Bazy warns that nephralgia may be the premonitory symptom of latent cancer or tuberculosis or of destructive nephritis, before other signs develop. In two cases described the intense nephralgia was the only sign of a tumor in the kidney, so small that it escaped detection at first. One patient was a woman of 58, with intolerable right nephralgia, cured by decapsulation. Nothing pathologic was found in the kidney, but a few months later the patient died of generalized cancer. In the other case a man of 41 had recurring hemorrhage from the kidney for two years and then, after a latent period, intense nephralgia on the other side cured by nephrocapsulotomy. Several months later other symptoms developed indicating cancer. Both patients were relieved of their intense pains by the operation on the kidney, but in both cases the pains were evidently merely one manifestation of malignant disease, which, after a latent period of several months, finally proved fatal. In another case the intense nephralgia was the precursor of an evident tuberculous process. Decapsulation of the kidney gave temporary relief, but recurrence of pain, two years later, was the signal for nephrectomy, and unmistakable tuberculous lesions were discovered in the upper part of the kidney. In several cases the decapsulation also cured the nephralgia accompanying mild nephritis. One woman has had no pain since the decapsulation, four years ago; it materially improved her general health. The decapsulation does not have to be total when done merely for nephralgia; it is liable to answer the purpose, even if only a small part of the anterior or posterior surface is decapsulated or merely part of one surface.

Semaine Médicale, Paris

June 14, XXXI, No. 24, pp. 277-288

60 Diverticulitis Chronic from the Start. F. Lejars.

Berliner klinische Wochenschrift

June 5, XLVIII, No. 23, pp. 1021-1068

61 *Treatment of Tetanus with Injections of Phenol. (Statistische Resultate der Behandlung des Tetanus mit subcutanen Carbolinjektionen.) G. Baccelli.
62 *Incomplete Rupture of Uterus. K. Franz.
63 Salvarsan and Hyperideal in Syphilis. F. Lesser.
64 *Hemorrhagic Purpura. G. Stümpke.
65 Influence of Diphtheria Toxin on Secretory Function of the Adrenals. (Einfluss des Diphtherietoxins auf die secretorische Funktion der Nebennieren.) M. Tscheboksaroff.
66 Case of Osteo-Arthropathy with Hypertrophy. G. Wolfsohn.
67 Diathermia: Electric Deep Heating in Treatment of Bone and Joint Disease. (Diathermie bei der Behandlung der Knochen und Gelenkkrankheiten.) A. E. Stein.
68 Disease of the Internal Sphincter of the Bladder and Posterior Urethra. H. Wossidlo.
69 *Frontal Headache and Vertical Strabismus. (Höhenschielen und Stirnkopfschmerz.) E. A. Heimann.
70 Obstetrical Analgesia. (Die Schmerzstillung bei der Geburt.) P. Strassmann.
71 Social Reform at the Expense of the Medical Profession. (Sozialreform gegen die Aerzte.) S. Vollmann.

61. Phenol Injections in Tetanus.—The intravenous or subcutaneous injection of a 2 or 3 per cent. solution of phenol was introduced into the treatment of tetanus by Baccelli before the dawn of serotherapy, and he here states that this method has amply established its efficacy. He tabulates the results obtained with it in ninety-four severe cases reported by forty-eight different clinicians, and thirty-eight very severe cases. The mortality was 2 per cent. in the first group and from 19 to 15 per cent. in the very severe cases. He found that patients with tetanus are exceptionally tolerant of phenol, so that it is possible to increase the dosage from 0.3 or 0.5 gm. to 1 or 1.5 gm. fractioned in the course of twenty-four hours, keeping close oversight of the urine. He cites only the cases, reports of which have been published in the international literature, a total of 190 cases since 1888. In eleven of the sixteen fatal very severe cases the dosage had been manifestly inadequate, that is, below 1 gm., and in one of the others the patient had gangrene of the arm. The total mortality of the entire 190 cases was 17.36 per cent.

62. **Rupture of the Uterus.**—Franz reports two cases of partial rupture of the uterus during the management of placenta prævia. They confirm the old experience that placenta prævia loosens the tissue of the lower segment of the uterus so that it tears easily. It is important, therefore, to inspect this region through the speculum after delivery. In both the cases reported the tear was above the external os and could not be seen through the speculum alone. It is not a mere coincidence that the woman who succumbed was a primipara. If Cesarean section is ever justified for placenta prævia, Franz remarks, it is with a primipara and a living child at term. With a small tear, the tamponing can be done from the vagina, but on suspicion of extensive rupture the tamponing should be done through an extraperitoneal incision parallel to Poupart's ligament. Hysterectomy should be done without delay in case the hemorrhage is not arrested by the tampon. Franz does not advocate suture of the tear; this is difficult and unreliable, while the rupture may be always regarded as infected from the start.

64. **Hemorrhagic Purpura.**—The patient was a previously healthy young laboring man who developed severe hemorrhagic purpura with suggillation in the throat, almost suffocating him, while signs of inflammation were evident in joints, kidneys and bronchi. Secondary necrosis developed in the throat, leaving extensive defects, but recovery otherwise was complete in a month.

69. **Vertical Strabismus and Frontal Headache.**—Heimann has frequently found that frontal headache was permanently cured by measures to correct vertical strabismus. The symptoms of hypertropia are indistinctness of vision, fatigue of the eyes in the theater and elsewhere requiring distant eyework, as well as in sewing, reading and writing. When the eyes are used much there follow a dull ache in the brow, and possibly vertigo and nausea, or, more frequently, supraorbital neuralgia. With all other ocular muscular disturbances prolonged rest of the eyes and general toning up, as after a vacation, reduce the disturbances, but this is not the case with those due to vertical strabismus. They persist unmodified, and if the cause is not discovered and corrected, may torment the victim all his life.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 10, XLI, No. 17, pp. 393-624

72 Sterilization of Women. A. Labhardt.
73 The Parathyroids. (Zur Lehre der Epithelkörperchen.) H. Möller. Commenced in No. 16.

Deutsche medizinische Wochenschrift, Berlin

June 8, XXXVII, No. 23, pp. 1057-1104

74 *Diagnosis and Treatment of Tuberculosis of Female Genital Organs. P. Kroemer.
75 Intracellular Bodies Found in Scarlet Fever. (Experimentelle Untersuchungen über die Scharlachätiologie.) G. Bernhardt and P. A. Hoefer.
76 Spontaneous Paratyphoid in Guinea-Pigs. H. Bofinger.
77 Biology of Intestinal Bacteria. G. Seiffert.
78 Lime-Sulphur Mineral Water in Treatment of Pulmonary Tuberculosis. (Wirkung der Arminiusquelle bei Lungentuberkulose.) Werner and C. Schreiber.
79 Filtration in Urine Production. (Anteil der Filtration an der Harnbereitung.) E. Frey.
80 *Mechanism of Elimination of Sugar and Means to Influence It. (Einfluss der Dyspnoe auf den Diabetes.) J. v. Magyary-Kossa.
81 Abnormally Narrow Aorta. (Zur Kasuistik der Aorta angusta.) M. Krabbel.
82 *Iodin Sterilization of Skin. (Jodtinkturdesinfektion.) C. Decker.
83 *[illegible] Seems to Favor Development of Cancer. (Gibt es [illegible] position für Karzinomentwicklung wäh[illegible]?) F. Lindstedt.
84 Treatment of Varicose Ulcers. Wehner.

74. **Genital Tuberculosis in Women.**—Kroemer found that the Fallopian tubes were affected in 222 of the 267 cases on record of tuberculosis of the female genital organs, the ovaries in forty-two, the uterus in sixty-seven, the vagina in sixteen and the cervix in eleven. But he affirms that this preponderance of tubal involvement by no means excludes the possibility of primary ascending infection from without. The patients complain nearly always of severe sacral and abdominal pains and disturbances in menstruation. The dysmenorrhea persists during the entire menstrual period, in which it differs from the ordinary antemenstrual dysmenorrhea. Tenesmus and pains in the bladder, without objective findings, are also frequent, and there are liable to be gastro-intestinal disturbances, loss of appetite, constipation or diarrhea, or both alternating. Pallor and emaciation are late symptoms as a rule. The chief aid to the diagnosis is the almost invariable participation of the peritoneum in the process, revealed by discovery of nodular thickening in the reflection of the peritoneum in the pouch of Douglas, when the peritoneal layers are rubbed together between the finger in the vagina and a finger in the rectum. The tuberculin reactions are of little use, as tuberculosis may be present even with a negative reaction, while a positive indicates merely that there is a tuberculous focus somewhere in the body. In one of his cases a violent local reaction was observed in the ovaries in a severe ovarian tuberculosis. The absence of any general or local reaction to the tuberculin test excludes tuberculosis, while ascites or nodules in the pouch of Douglas or ulceration on the genital mucosæ confirm its existence. Treatment should be operative on principle. Inoculation of animals with a scrap from the focus is the most reliable measure. A little secretion or tissue can be obtained through the vaginal cul-de-sac, and by crushing the regional lymph-nodes in the inoculated animal it is possible to determine the presence of tubercle bacilli in less than two weeks. Rabbits are well adapted for this test, he says. The non-efficacy of the ordinary conservative measures is further testimony against gonorrhea; superheated air in particular aggravates conditions in the tuberculous process. In a recent case of tumor in the right ovary or tube, application of electricity was followed each time by a colic-like attack of abdominal pain, lasting for several hours. Operation revealed advanced tuberculosis of the ovary with multiple abscesses.

80. **Means to Reduce Glycosuria.**—The experimental, clinical and pharmacologic experiences related seem to demonstrate that the symptoms of diabetes are the result of toxic action from the sugar in the blood and tissues, and, further, that phloridzin and the factors producing glycosuria in diabetes act by their toxic influence on the innervation of the kidneys or the nerve centers in the brain controlling the renal nerves. The aim in diabetes, therefore, should be to reduce the glycosuria, and Magyary-Kossa has found that inhalation of carbon dioxid is able to accomplish this. Rabbits with phloridzin glycosuria had the elimination of sugar reduced 50 per cent. when dyspnea was induced by inhalation of carbon dioxid or other means. This suggests that inhalation of carbon dioxid might reduce the output of sugar in diabetics, "of which," he says, "more anon." In his experimental research the amount of sugar eliminated dropped by 21, 27, 29 and 67.8 per cent. after subcutaneous injection of carbonic acid water (*Sodawasser*). The carbon dioxid seems to have a paralyzing action on the renal nerves or their centers.

82. **Tincture of Iodin Sterilization of the Skin.**—Decker's research seems to show that the iodin is not bactericidal, as employed, but owes its sterilizing action to the effect on the skin, rendering it less susceptible. Eczema developed frequently under the plaster afterward and some of the surgeons and attendants found the fumes irritating to eyes and throat, so that the method has been discarded in Decker's service.

83. **Pregnancy and Cancer.**—Lindstedt has recently encountered five cases in which necropsy or an operation confirmed the assumption of gastric cancer in pregnant women, all between the ages of 22 and 33. (Sänger has also encountered two cases of the kind in women of 28 and 32.) In all the cases there was evidence that the cancer did not exist before the pregnancy. Lindstedt adds that among 743 cases of gastric cancer at the Stockholm hospital since 1889, fifty-nine of the women were under 42, and in fifteen of the twenty cases in which the last pregnancy was recorded, the case-histories seemed to indicate that the cancer had developed in connection with a pregnancy and had not preceded it. Comparison of other statistics in regard to cancer in men and in women and

in the married and unmarried, confirms the assumption, Lindstedt thinks, of a predisposing influence of the pregnancy. Some of the changes that occur with a pregnancy are analogous to senile changes, especially the hypertrichosis, accumulation of fat, formation of osteophytes, caries of the teeth, cessation of menstruation, abnormal pigmentation, reduced capacity for assimilation of carbohydrates, etc. The premature sexual maturity of children with embryoid tumors is another argument in this line—all showing a predisposition for cancer created by the fact of the pregnancy. The first symptoms of gastric and uterine cancer develop relatively often in connection with a pregnancy, and they are more frequent at the corresponding ages in married than in unmarried women.

Medizinische Klinik, Berlin

June 4, VII, No. 23, pp. 875-912

85 *Persisting Disturbances After Appendectomy. (Gründe bleibender Beschwerden insbes. Adhäsionsbeschwerden nach Appendektomie.) F. König.
86 *Headache and Disturbances in Ocular Muscles. (Kopfschmerzen und Augenmuskelstörungen.) F. Schanz.
87 *Hot Dip Baths. (Heisse Tauchbäder.) Determann.
88 *Bismuth Salts in Radiography. (Zur Anwendung von Wismutsalzen in der Röntgenpraxis.) L. Metzger.
89 Blood-Findings with Multiple Neurofibromas. (Ueber einen Blutbefund bei der Recklinghausenschen Krankheit.) J. Wittemann.
90 Chicken-Pox in Adults. (Varicellen bei Erwachsenen.) P. Misch.
91 Radio-Active Zwieback. (Radioaktives Gebäck.) J. Ruhemann.
92 Medical Pseudomathematical Formulas. (Die Sperlingsche "Circulationsformel.") B. Lewy.
93 Means of Communication Between the Higher Animals. (Verständigungsmittel in der höheren Tierwelt.) A. Sokolowsky.

85. **Disturbances Persisting After Appendectomy.**—König reviews the causes for symptoms persisting after removal of the appendix. Among them may be coexisting cholelithiasis, enteroptosis or gynecologic disorder, but by far the most important cause is the formation of adhesions, and König thinks that much can be done to avoid this after the operation. In his seventy-one cases of disturbing adhesions, analysis of the histories shows that the adhesions were particularly liable to develop when the serosa had been injured in any way, or when there were preexisting adhesions. Every operation, it seems, is almost sure to enhance a preexisting tendency to formation of adhesions. König even goes so far as to maintain that appendectomy, when adhesions have already formed, has a dubious prognosis; the more extensive the adhesions, the greater the liability to trouble later. The practical lesson from his arguments is that the appendix should be removed before adhesions have had time to form; he disapproves of tiding the patient along and waiting for an interval operation. Far better is it, he declares, to remove the appendix at once, restricting the incision to the smallest possible opening and using every means to prevent adhesions by stimulating peristalsis and the circulation, encouraging the patient to exercise early, moving the legs in bed and getting up after the second day, with instructions to keep up gymnastic exercises at home and keep the bowels open. If adhesions are already present, these measures are not enough, and they must be supplemented by oil, one tablespoon by the mouth and 250 c.c. of warm oil injected into the rectum, with abdominal massage after the first week, avoiding the field of operation at first, but later going over the whole abdomen. When extensive adhesions with the abdominal wall are found at the operation, König has the patient lie on the other side for hours the day after the operation and change his position frequently, assuming the knee-elbow position at times and getting up as soon as possible. He reports two instructive cases, one showing the severity of the symptoms that may develop even from slight adhesions, and the other—the clinical picture suggesting cancer at first—illustrating the fine results that may be obtained by well-planned treatment.

86. **Headache and Ocular Muscular Disturbances.**—Schanz discusses the strain on the innervation when the eyes are not exactly symmetrical, and he relates instances of neurasthenic disturbances, headache and epileptiform seizures, in which benefit or complete cure followed correction of the trouble. He discusses how the general practitioner can detect this muscular eye strain when the patients complain of everything except of their eyes. With muscular asthenopia the patient complains only of nausea, vomiting, vertigo, insomnia, etc. Schanz advises more frequent application of Maddox's rods for the detection of the anomaly in the position of the eyes, and Gräfe's card for detection of disturbances in convergence. The frequency of disturbances of this kind and the numerous expensive and ineffectual attempts to cure them based on ignorance of their etiologic connection, should compel practitioners to familiarize themselves with these simple methods of investigation. In three of the cases described, severe neurasthenia for years, rebellious to all neurologic treatment, was cured with all its train of symptoms at one stroke by appropriate glasses on the discovery of the previously unheeded tendency to vertical strabismus; hypertropia.

87. **Hot Dip Baths.**—Determann expatiates on the beneficial stimulating effect and reaction of a bath of only four to ten seconds' duration in water at a temperature of 37 to 45 C. (98.6 to 133 F.). The patient can lie down in the bath himself or be lowered into the water by two attendants. After the bath the patient is wrapped in blankets and lies quietly for an hour. Even weak patients can take these brief hot dips, which do not exhaust them, while they induce a vigorous reaction. The duration of the bath is so short that the body does not become overheated. The special indications for these hot dip baths are general motor weakness and general sensory irritability in persons free from organic disease. Partial hot dip baths may also prove useful in cases in which a full bath is too much of a strain.

88. **Bismuth Carbonate in Radiography.**—Metzger used bismuth carbonate instead of subnitrate in Roentgen examination of a young woman of 27 suspected of cancer. Thirty hours after taking the injection according to Rieder's technic, the greater part could be seen in the rectum and the patient complained of pains and tenesmus and the left hypochondrium was tender. After the rectum had been evacuated by an enema, the stool showing considerable blood, the symptoms subsided. The bismuth carbonate had evidently accumulated as an irritating foreign body in the rectum. The case illustrates the importance of clearing out the intestine and not allowing the bismuth to stagnate.

Münchener medizinische Wochenschrift

June 6, LVIII, No. 23, pp. 1225-1280

94 *Combined Electric and Roentgen Treatment of Cancer. (Elektro- und Radiochirurgie im Dienste der Behandlung maligner Tumoren.) R. Werner and A. Caan.
95 Radiography in Diagnosis of Disease of the Large Intestine. E. Stierlin.
96 *Atony of the Cecum and Allied Conditions. (Typhlatonie und verwandte Zustände: chron. Appendizitis, sog. Coecum mobile, Typhlektasie, sowie habituelle Zoekumtorsion.) F. J. Fischler.
97 Peristalsis Rhythm of Stomach. (Ueber den Rhythmus der Autrumperistaltik des Magens.) R. Kaufmann and R. Kienböck.
98 Hypertrophic Familial Neuritis. P. Boveri.
99 *Recurrences After Salvarsan Treatment of Nerve Syphilis. Desneux and Dujardin.
100 *Typhoid Sepsis. (Ueber Typhussepsis.) L. Jores.
101 Cholelithiasis. H. Kehr.
102 Injurious By-Effects of Liquid Petrolatum. (Ueber schädliche Wirkungen des Paraffinum liquidum: Mitteilung zur Salvarsantherapie.) T. Hausmann.

94. **Electric Treatment of Cancer.**—Werner and Caan's experiences with temporary eventration of internal organs for direct application of electricity and radiotherapy were mentioned in THE JOURNAL, April 22, 1911, p. 1234. They here give an illustrated description of further work in this line of electrosurgery and radiosurgery, as they call the combined method. The de Forest electric needle has proved exceptionally useful to prevent dissemination of germs in excising the growth. Ninety patients were treated with it, and the outcome was particularly gratifying in cases in which there was reason to anticipate recurrence after removal of the tumor by any other technic. In a few cases fulguration also proved useful. They used this needle technic for palliative operations on accessible inoperable cancers, sometimes supplemented with thermopenetration when the vicinity of large vessels did not forbid this. In this latter case excochleation and fulguration were preferable. Metastases of inoperable tumors should be treated, they add, the same as a primary operable growth.

96. **Atony of the Cecum.**—Fischler has encountered cases of actual atony of the cecum causing a special clinical picture characterized by stagnation at this point, putrefaction and local meteorism, and pain from traction, with a train of pains, colics, palpable tumor and obstinate constipation. The appendix may have nothing to do with the syndrome, and the cecum is not necessarily abnormally movable or displaced. The amount of food should be restricted, and too much carbohydrate, fat or albumin should be especially avoided in the diet. Light massage of the region of the cecum is useful, in the direction of peristalsis, with gymnastic exercises during the intervals of disturbances. All powerful purgatives should be avoided, so as to refrain from further irritation of the intestinal mucosa. Fischler orders further three or four teaspoonfuls a day of a mixture of 15 parts each of bismuth subnitrate and magnesia usta, with 10 parts each of bismuth subsalicylate and pulverized rhubarb, to be taken in water after eating. This is to be kept up for a week or two. Moist heat should be applied also to the cecum region by compresses worn during the night, while the patient should be instructed what foods to avoid as liable to induce flatulence or indigestion. In case of very severe colic application of cold and minute doses of morphin may be necessary. This clinical picture has sometimes been mistaken for wandering cecum, and the bowel has been sutured in place, but the disturbances persist. The two conditions may coexist, but the above medical measures should be given a thorough trial, Fischler insists, before assuming that operative correction is necessary.

99. **Neurorecurrences After Treatment of Syphilis with Salvarsan.**—Desneux and Dujardin report from Brussels seven cases of typical recurrences, such as Benario and others have described. They encountered these seven cases among 351 in which salvarsan treatment was given, but they are confident that the disturbances were exclusively of a syphilitic nature, probably related to a secondary syphilitic meningitis. The relative frequency of such disturbances the authors ascribe to the inadequacy of the dosage, the inadequate dose having apparently a peculiar influence on the evolution of the syphilitic process.

100. **Typhoid Autosepsis.**—Jores found no characteristic lesions of typhoid at necropsy of a man of 45 who succumbed in less than two weeks with symptoms of sepsis, chills, angina, torticollis, swelling of various joints and of the ears, with high fever but not a high pulse-rate. Typhoid bacilli were cultivated from the blood, and it was learned that the man had passed through a severe typhoid fever sixteen years before. Jores thinks it probable that he was a chronic bacillus-carrier and that an autobacterial reinfection was responsible for the sudden fatal sepsis, both the clinical and anatomic findings confirming this assumption. He does not know of any similar case on record, but it shows the possible peril which threatens apparently healthy bacillus-carriers. He urges closer examination in all cases in which typhoid bacteriemia is observed with a fatal affection of apparently other origin, to determine the exact share of typhoid sepsis in the process.

Therapeutische Monatshefte, Berlin

June, XXV, No. 6, pp. 341-404

103 Experimental and Clinical Research on the Action of High-Frequency Electric Currents. (Wirkung der Hochfrequenzströme.) A. Schittenhelm.
104 *Acute and Chronic Intestinal Catarrh in Young Children. (Darmkatarrhe im 2. und 3. Lebensjahre.) F. Göppert.
105 *Furuncle in the Ear. R. Imhofer.
106 *Detection of Foreign Body in the Throat by Staining It. (Fremdkörper im Halse.) J. Fackenheim.
107 Radio-Active Mineral Water in Internal Disease. (Bedeutung der radioaktiven Gasquelle von Franzensbad für den Internisten.) Nenadovics.
108 *Warning Against Maretin. W. Heubner.
109 *Physicians' Lack of Judgment in Regard to New Drugs. (Aerztliche Urteile über moderne Arzneiproduktion.) W. Heubner.

104. **Treatment of Acute and Chronic Intestinal Catarrh in Young Children.**—Göppert endorses Meyer's statements, summarized in The Journal, June 10, 1911, p. 1676, in regard to the necessity for recognizing that milk should not be the basis of the diet for children 2 and 3 years old, but merely one element of the food, and that it may do direct harm in certain cases. Göppert's experience confirms Czerny's conception of the exudative diathesis, and the advisability of banishing from the diet of certain young children the usual excess of milk, eggs, butter and sweets.

105. **Furuncle of the Ear.**—Imhofer has discovered in experiments on dogs that infection occurs by way of the hair follicles, and locates in the sebaceous glands to form the furuncle. No traumatic portal of entry is required; any mechanical pressing in of infectious material into the orifice of a hair follicle is liable to induce the production of a furuncle. Treatment should aim, therefore, to evacuate the plug without pressure, as tamponing, etc., are liable to force infectious material into new hair follicles and thus set up a new furuncle. In one case a young girl had eight in the ear in three weeks. Imhofer has now devised a rubber bulb and tube which answers all the indications. The tube has a broad opening, near the closed tip, and aspiration from the compression of the bulb sucks out the ripe plug into the tube without mechanical trauma and without spreading the infection. He then introduces a strip of gauze, moistened with a 1 per cent. alcohol-mercuric bichlorid solution, introducing the strip along the sound wall which it protects against infection. The aspiration is applied again the next day, and this generally cures the patient permanently.

106. **Fish-Bone in the Throat.**—In the case reported by Fackenheim, it proved impossible to distinguish the fish-bone, which had evidently lodged in the throat and was causing much disturbance. Fackenheim had the patient eat some stewed huckleberries, hoping thus to discolor the fish-bone and render it visible. This measure was successful, a blue point then being seen projecting 1 mm. from the red left tonsil. Fackenheim has applied this staining method in a number of cases since, and always with immediate success.

108. **Warning Against Maretin.**—Heubner protests against some advertising literature recently sent out by the firm making maretin which commends the drug as an antipyretic, especially for the fever in phthisis, the advertisement stating that, according to Professor Dresser's exact experiments, maretin is not a poison for the blood. This last statement is contrary to reports on the drug that have been published by various clinicians which Heubner cites, and he relates the results of numerous experiments of his own which demonstrate that maretin has a powerful action on the blood, inducing pronounced anemia. It is an excellent means to induce experimental anemia, and the number of cases in which the blood has been injured by maretin is shockingly large, he says, far too large to be shielded by the acceptance of an idiosyncrasy. He adds that the career of maretin is typical: first laudatory reports from clinicians, then words of doubt, warnings and reports of bad by-effects, then a pause; then after a long period of silence, a new propaganda campaign on the part of the manufacturers. Unfortunately, this career of the drug has also a serious side: A leading firm of manufacturing chemists has here overridden the fundamental principles of ethics, for it is unquestionable that a physician would obtain an entirely different idea in regard to the value and disadvantages of maretin from the postals sent out by the manufacturers from what he would obtain by reading up the articles on maretin that have been published in the medical press, especially the warnings by Krönig, Benfey and Steinbauer, in 1905. Heubner adds that it would be well for us to remember that the firm's action in this case might be followed by an aggravation of the condition of hundreds of patients, and that the firm was willing to take this action in spite of its fine equipment and the cooperation of medical experts, including a prominent pharmacologist. What goes on in the inner circles of a commercial enterprise, he continues, is not always above all reproach, and only the liveliest critical cooperation on the part of the rank and file of the profession and its leaders is able to confer the greatest attainable sense of security. The rough stones discovered by commercial enterprise are valueless when accepted with blind confidence; the stone does not reveal its possible value until after it has been polished up under the polishing powder of the sense of responsibility on the part of physicians.

What we need above all, Heubner declares, is a skeptical attitude of mind during the experimental stage of new drugs. *Was uns not tut, ist Zweifel.*

109. Physicians' Lack of Judgment in Regard to New Drugs.—Heubner refers to the unfavorable criticism to which he was subjected when he protested against supplying reprints for manufacturers to use as propaganda literature for their products. (His article on the subject was summarized in THE JOURNAL, July 30, 1910, p. 446.) His critics stated that physicians would not be led astray by advertising literature, and that the average physician must certainly be credited with sufficient power of judgment to recognize that the new drugs commended to his attention are still in the experimental stage. In view of this unfavorable criticism, he rejoices when others take a similar stand with him, and he quotes from the "Pocket Book of Treatment" by R. W. Leftwich, which was reviewed in THE JOURNAL, April 15, 1911, page 1129. Heubner also cites Zabel's report and comment on a case of poisoning from purgen, laying great stress on the evils of overproduction. The flood of new drugs is so great that physicians feel helpless as they are overwhelmed by this flood, and seem to make no effort for critical judgment of any of the drugs. This overproduction is, Heubner thinks, one of the most important causes of this wide-spread absence of critical judgment, which is such a great lack in our medical culture. The very burdening of the memory with so many names impresses on the physician a feeling of his own inadequacy, and this crushes out of him the inner power for energetic critical resistance.

In reality, Heubner continues, there is not such a vast number of different actions or of effectual substances; it is merely the names of the drugs and their combinations or forms which pile up in such numbers. But the *action* of the drugs is what the physician is interested in, while the many names serve only for commercial purposes. Against his will the physician is thus compelled to master all this extraneous matter which has really nothing to do with his practice, and which he learns only at the cost of what is fundamentally important for him. For all his ideas of the comparatively few and simple pharmacologic processes become tangled up in inextricable confusion.

Besides all this, it must not be forgotten that it is an easier and much simpler matter to produce a new effectual molecule than to determine the superior advantages of this new molecule in therapeutics. Consequently, many, many more new drugs are produced than are really thoroughly tested as to their therapeutic action. But what the physician wants to know is only those substances which offer most decided and positive advantages over those with which he is already acquainted. Most of the drugs which are lauded as new, have some therapeutic action, but it is no better than that of the old and tried drugs.

In this the manufacturing chemists make a mistake; they needlessly burden the physician with new drugs which do not possess absolutely certain superior therapeutic advantages, while they cumber the memory with many unnecessary new names. It follows, as a matter of course, that this must gradually breed a certain apathy. Why was it necessary to inflict another arbitrary name on veronal-natrium, for instance? Pantopon, he remarks, was not accepted by the Council on Pharmacy and Chemistry of the American Medical Association, because the name did not suggest the presence of morphin. He adds that the correctness of this stand on the part of the Council is shown by Haymann's two articles on pantopon; in the first Haymann stated that pantopon did not have a tendency to induce *habituation*, which statement he retracted in the second article.

Heubner also gives the molecular formulas for six of the newer proprietaries, showing the close *resemblance* between the members of the group, while *nothing in* the name would suggest this. This similar constitution causes very similar action by them all; he thinks that it might *even* be asserted that the difference between the action of the various drugs in this group, administered to a single person, would be less than the difference between the action of a single one of the drugs given to different persons. But on account of this minute difference, the physician *must* burden his memory with six entirely different names. It is certainly for the interests of the medical profession, Heubner concludes, to be a little more backward in accepting the offerings of the manufacturing chemists. (Heubner has also published recently a breezy article telling his compatriots about the work of the Council on Pharmacy and Chemistry; it was reviewed in THE JOURNAL, April 5, 1911, p. 1155.)

Wiener klinische Wochenschrift, Vienna

June 1, XXIV, No. 22, pp. 775-810

110 *Dependence of Motor Functioning of the Intestines on the Motor and Secretory Behavior of the Stomach. S. Jonas.
111 *Differential Diagnosis from Cerebrospinal Fluid. (Das Verhalten des Reduktionsindex in der normalen und pathologischen Zerebrospinalflüssigkeit.) M. Lateiner.
112 Improved Radium-Holder. (Ueber St. Joachimsthaler Radiumträger.) F. Dautwitz.

June 8, No. 23, pp. 811-850

113 Experimental Research on Kidney Functioning. A. Katz and R. Lichtenstern.
114 Treatment of Wounds and Fractures. H. Ehrlich.
115 Digitalis Gelatine. (Ueber Digitalisleim—*Gelina Digitalis.*) M. Herz.
116 The Typhoid Epidemic at Hermannstadt. K. Ungar.

110. The Motor Functioning of the Intestine in Relation to the Motor and Secretory Conditions of the Stomach.—Jonas tabulates the findings in thirty-eight cases of gastro-intestinal disturbances, his conclusions being that there is *no* special connection between the degree of acidity of the stomach and the motor functioning of the intestines, but that any obstruction to the evacuation of the stomach has a *proportional* retarding influence on the passing of the contents through the intestine. Even when the motor functioning of the intestine is normal *elsewhere, if the rectum has lost its* sensitiveness, stool will accumulate there and the clinical picture of constipation be presented, although in reality conditions are normal except in the rectum. Jonas found the motility of the intestine always parallel to that of the stomach, that is, intestinal hypermotility seems to be the rule, at least in the upper segment, in cases of achylia, nervous hypermotility of the stomach and ulcer and sometimes with intestinal catarrh.

111. Differential Diagnosis from Cerebrospinal Fluid.—Lateiner gives the details of the application of Mayerhofer's reducing reaction in twenty-nine cases of certain or suspected meningitis. (Mayerhofer's technic was described in THE JOURNAL, June 11, 1910, p. 2009.) The findings compared with the course of the cases confirms the diagnostic importance of the reaction, particularly when the findings are negative. Repetition of the test in dubious cases generally cleared up the diagnosis.

Zentralblatt für Chirurgie, Leipsic

June 3, XXXVIII, No. 22, pp. 757-788

117 Isolated Relaxation of Right Abdominal Wall with Recurring Appendicitis. (Eine [illegible] Erscheinung bei sich wiederholenden [illegible] N. Wolkowitsch.
118 Movable Cec[illegible] [illegible] mobile, fixierte Appendix. [illegible]
119 Technic for [illegible] Technik der Darmnaht nach Schmieden.) W. Kausch.

Zentralblatt für Gynäkologie, Leipsic

June 3, XXXV, No. 22, pp. 801-832

120 Pathology of Fetal Hydrops. (Zur Pathologie des Hydrops foetus universalis.) F. Lieven and G. C. Nyhoff.
121 *Hypophysis Extract to Promote Labor. (Hypophysenextrakt als Wehenmittel.) J. Pfeifer.

June 10, No. 23, pp. 833-856

122 Puerperal Inversion of the Uterus. Nacke.
123 Vagitus Uterinus. W. v. Streit.

121. Hypophysis Extract to Promote Labor.—In the case reported by Pfeifer the primipara in the difficult breech presentation showed signs of pregnancy nephritis, ischuria, amaurosis and anasarca. No benefit was derived from quinin and ergot, and hypophysis extract was injected the third day on account of persisting ischuria and the delivery was forcibly completed with great difficulty. After a few hours of improvement the patient succumbed to the uremia. In future, Pfeifer remarks, he will reserve the hypophysis treatment for normal parturients.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 4, XXXII, No. 67, pp. 707-722

124 *Sea Bathing in Gynecology. L. M. Bossi.
125 Iodin Sterilization of Skin. (La disinfezione della cute col metodo Grossich.) C. Rinaldo.

June 6, No. 68, pp. 723-730

126 *Autoplastic Operation on Femoral Artery. C. Mantelli.

124. **Sea Bathing in Gynecology.**—Bossi has been much impressed with the therapeutic action of systematic sea bathing in the mild Italian climate in all chronic gynecologic affections, especially with fibromyomas, chronic endometritis, displacement with adhesions, defective puerperal involution and chronic inflammation in the genitalia. He insists on medical supervision and on the necessity for utilizing better the medical thermal and physical measures and combating the abuse of *mutilating* operations. In this line, Bossi adds, gynecologic thalassotherapy is one of the most effectual means with which Nature has endowed us.

126. **Autoplastic Operation on Femoral Artery.**—Mantelli's patient was a man of about 41 with sarcoma of the hip; 5 cm. of the femoral artery and vein had to be resected in removing the growth. The vein was ligated, and a segment cut from the central stump was used to bridge the gap in the artery. The autoplastic operation was done by Carrel's technic and with the best results. Mantelli says that it is the fifth case of the kind on record and the third in which the outcome was entirely satisfactory.

Policlinico, Rome

May 28, XVIII, No. 22, pp. 681-712

127 *Importance of Acetonuria in Gynecology. (Sul valore della ricerca dell'acetone nelle orine in chirurgia ginecologica.) O. Paleani.
128 Influenzal Alveolar Polyarthritis Aborted with Diphtheria Antitoxin. C. Palazzo.
129 Uterine Fever. L. M. Bossi and L. Stropeni.

June 4, No. 23, pp. 713-744

130 Intestinal Hemorrhage in Typhoid. (Per lo studio dell'enterorragia nel tifo.) L. Fornaca.
131 Obstetric Version. R. de Seigneux.

May, Surgical Section, No. 5, pp. 193-240

132 Septicemic Sporotrichosis. C. Antonio.
133 Changes in the Blood in Ether and Chloroform Anesthesia. (Le modificazioni morfologiche del sangue nella narcosi eterea e nella cloronarcosi.) A. Poggiolini. Commenced in No. 4.

127. **Acetonuria in Gynecology.**—Paleani ascribes the acetonuria following hemorrhage to reabsorption of the blood. The findings may be negative even with extensive internal hemorrhage if the blood is not being absorbed. In two cases of ruptured tubal pregnancy with great internal hemorrhage, the findings were negative until after the operation, while they were positive almost at once in a case of ruptured pyohematosalpinx with acute purulent peritonitis. Conditions favored absorption of the blood and acetone promptly appeared in the urine. The patient died but another recovered with practically the same findings except that the peritonitis had preceded the rupture and adhesions walled off the contents of the tube when it burst.

Riforma Medica, Naples

June 3, XXVII, No. 23, pp. 617-644

134 *Improved Technic for Determination of Negri Bodies. A. Martiri.
135 Case of Persisting Botallo's Foramen. (Considerazioni cliniche ed anatomo-pathologiche *sopra un caso di* morbo ceruleo.) U. Gasperini.

134. **Determination of the Negri Bodies.**—Martiri states that since the technic described has been adopted the positive findings have jumped from 31 to 95 per cent. The nerve tissue is mixed to a paste with glycerin and treated with a small amount of marine blue and eosin. This shows up the Negri bodies rapidly, and the stains keep well.

Hygiea, Stockholm

May, LXXIII, No. 5, pp. 513-672

136 *Practical Importance of the Wassermann Reaction in Syphilis. K. Marcus. Commenced in No. 3.
137 *Capillary Test of Acidity of Gastric Juice. (Kapillaranalys af magsaft.) I. *Holmgren.*

136. **The Practical Importance of the Wassermann Reaction in Syphilis.**—Marcus concludes his long monograph on this subject with the statement that a positive Wassermann reaction during a latent period should be regarded and treated as a symptom of syphilis. It indicates active syphilis. A negative reaction in itself has no significance, but in connection with other circumstances may aid in throwing light on the case under special conditions. The Wassermann reaction should not be accepted as a guide for the course of treatment as a whole. It is better [illegible] conduct the treatment according to the Fournier-Neisser-Welander principle. Marcus adds parenthetically that the time is not yet ripe for a decisive opinion on salvarsan in this respect. Mercurial treatment has a regular and decided action on the Wassermann reaction. The article is accompanied by thirty pages of international bibliography on the Wassermann reaction, with the original titles.

137. **Capillary Test for Gastric Acidity.**—Holmgren's blotting-paper test was described in The Journal, March 18, 1911, page 857. He here gives parallel findings in fifty-four cases with this and other tests, all confirming its reliability.

Norsk Magazin for Lægevidenskaben, Christiania

June, LXXII, No. 6, pp. 625-732

138 **Actinomycosis in Norway.* F. Harbitz and N. Grøndahl.
139 *Fatal Benzol Poisoning from Siderosthen. (Død ved benzolforgiftning ved smurning av en septic tank med "siderosthen.") N. W. *Oxholm.*
140 Bismuth Does Not Neutralize Acidity of the Stomach. (Er Subnitras bismuthicus et syremaettende middel?) P. W. K. Bøckman.
141 Two Cases of Rupture of Spleen from Contusion. (Ruptur av milten.) H. Wille.
142 Arthrodesis of Ankle by Implanted Nail Cut from Fibula. (Arthrodese med benkile ved pes paralyticus.) H. Wille.
143 Improved Technic for Iridotasis for Glaucoma. J. Borthen.

138. **Actinomycosis in Norway.**—Harbitz and Grøndahl discuss the prevalence, the pathologic anatomy and the bacteriology of actinomycosis with a report of eighty-seven cases, accompanied by four colored plates. Their experiences with serotherapy were not very encouraging but they justify further trials of the method and research to discover some specific serodiagnosis.

139. **Benzol Poisoning.**—A man was wiping out the inside of a septic tank with a proprietary used for the purpose, called siderosthen, when he collapsed and died soon after being removed from the tank. The substance contained benzol and Oxholm ascribes the fatality to this, reviewing what has been written on benzol in the literature. Schmidt-Nielsen has recently reported a case of poisoning from benzol fumes, emphasizing the importance of ample ventilation when benzol in any form is used in manufacturing.

Ugeskrift for Læger, Copenhagen

May 11, LXXIII, No. 19, pp. 663-710

144 *Two Cases of Pulmonary Syphilis. C. E. Jensen.

144. **Pulmonary Syphilis.**—Jensen's first patient was a girl of 6 who was under treatment for an apical process for eighteen months after operative treatment of a tedious suppuration on the left side of the nose, supposed to be of a tuberculous nature although the microscope failed to confirm this assumption. There was no history of syphilis or tuberculosis in the family. The physical signs of mischief at the left apex were accompanied by slight evening temperature but there was no sputum. The Pirquet reaction, however, was negative, while the Wassermann reaction proved positive, and under antisyphilitic treatment the child soon was restored to health. The temperature became permanently normal three weeks after commencing the inunctions and iodid. The Wassermann test applied to the parents elicited a positive response in the mother alone. The congenital syphilis had evidently induced a chronic pneumonic process at the apex and checked the physical development of the child which took a turn for the better at once under the specific treatment. The second patient was a healthy young woman who contracted syphilis at the age of 25 and the disease ran a severe course with a tendency to repeated suppuration in spite of vigorous specific treatment. About eighteen months after the infection, the middle lobe of the right lung showed signs of infiltration and fever developed with great impairment of the general health. Under mercury and iodid the symptoms retrogressed but returned two years later, subsiding anew under another specific course of treatment. In both cases the distressing paroxysmal cough was not accompanied by expectoration. The localization of the process in the middle lobe on one side also spoke for syphilis; Grandidier has reported that in twenty-seven of thirty cases of pulmonary syphilis he found on record the lesion was located in the middle lobe of the right lung.

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ANIMAL EXPERIMENTATION IN RELATION TO EPIDEMIC CEREBROSPINAL MENINGITIS *

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Epidemic meningitis, or, as the disease is often termed, cerebrospinal meningitis, is caused by a peculiar microorganism, *Diplococcus intracellularis* or meningococcus, that gains entrance to the membranes surrounding the brain and spinal cord, where it sets up an inflammation that terminates in death, or, when life is spared, in many instances, in paralysis, imbecility or some other serious condition. Epidemic meningitis, in the past, had been abhorred alike by the laity and the medical profession. To the one it brought consternation by reason of its apparently mysterious onset as well as its terrible effects; and to the other, distress because of helplessness in dealing with so malignant a disease. Now, happily, the situation is wholly changed. Mystery no longer attends the appearance of the disease, and the discovery of a specific method of treatment has brought the malady within the power of medical control. This revolution has been accomplished through the discovery of the specific microorganism or germ which causes the disease,[1] the manner in which this germ leaves an infected to enter a healthy body,[2] where it sets up the disease, and, particularly, by the discovery, through animal experimentation, of a curative product, the so-called antimeningitis serum.[3]

It would be a mistake to suppose that epidemic meningitis prevails only in the form of epidemics, properly speaking. Indeed, we know that the epidemics represent special manifestations of the disease and that an isolated or so-called sporadic form of the same disease constantly prevails in many parts of the world. The disease is kept alive through these isolated cases and the epidemics arise from them, as a result of certain fortuitous circumstances, of which only a part are at present understood.

Within a decade, the epidemics of meningitis have become more frequent than they were for a period of a quarter of a century or longer before. In the past, the epidemics received the name of "spotted fever," from the circumstance that a hemorrhagic eruption of the skin often attends the disease. The discovery of the germ cause of the disease was made less than a quarter of a century ago, and it has been now demonstrated, beyond all doubt, that this germ is responsible for the epidemic as well as for the sporadic cases of the disease. The renewed intensive studies of meningitis, with the aid of animal experimentation and all the laboratory appliances produced by modern bacteriology that have characterized the period of prevalence of this last epidemic, have shown the manner of infection and thus have pointed the way to the application of preventive measures, and have furnished as well the specific and highly effective therapeutic weapon for its cure.

HOW THE PROBLEM OF FINDING A CURE FOR EPIDEMIC MENINGITIS WAS SOLVED

It cannot be regarded as remarkable, in view of the appalling mortality and the severe consequences of the disease, and of the absence of all really efficient means of combating it, that an effort should have been made to influence its course by means of an antiserum. At the present state of our knowledge concerning the immunization of animals with bacteria, it could be predicted that the employment of cultures of *Diplococcus intracellularis* for immunization purposes would lead to the development of an antiserum of some degree of potency, but whether this antiserum would prove of any value in the treatment of epidemic meningitis in human beings obviously could not be foreseen.

In carrying into practice the idea of the employment of an antiserum, two methods of proceeding were available. The antiserum could be produced and then applied empirically in the treatment of the disease, or an experimental basis might first be sought, on which the employment of the antiserum in man might ultimately come to be based. The first, or empirical method, as a matter of fact, was followed to a large extent in Germany,[3] while the second, or experimental method, was employed in the United States.[3] How important this difference came to be is indicated by the fact that the early results of the serum treatment of epidemic meningitis as reported from Germany, where the serum was employed chiefly by subcutaneous injection, were so unsatisfactory and unpromising that it is not likely that the serum would have come to be generally employed with confidence;[3] while, on the other hand, the experimental establishment of the value of the antiserum in controlling experimental meningitis produced in monkeys, when the serum was injected directly into the membranes surrounding the brain and spinal cord, as was done in America by

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* This paper is Pamphlet XXI of the series intended for circulation among the public, prepared for and reprinted by the Bureau on Defense of Medical Research of the Council on Health and Public Instruction of the American Medical Association. Twenty-one of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live-stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, circulation of the blood, tropical diseases, syphilis, obstetrics, etc. A price-list will be sent on application.

[1] Weichselbaum: Fortschr. d. Med., 1887, v, 622.

[2] Goodwin and Scholly: Jour. Infect. Dis., 1906, Supplement No. 2, p. 21. Flügge: Klin. Jahrb., 1906, xv, 353. Flexner: Jour. Exper. Med., 1907, ix, 142.

[3] Flexner: THE JOURNAL A. M. A., 1906, xlvii, 560; Jour. Exper. Med., 1907, ix, 168. Jochmann: Deutsch. med. Wchnschr., 1906, xxxii, 788. Wassermann: Deutsch. med. Wchnschr., 1907, xxxiii, 1585. Schoene: Die Therapie der Gegenwart, 1909, xlviii, 72. Flexner and Jobling: Jour. Exper. Med., 1908, x, 141-690. Flexner: THE JOURNAL A. M. A., Oct. 30, 1909, p. 1443; Internat. Clin., 1909, Series 19, iv.

Flexner,[3] supplied the actual basis on which the successful serum treatment of epidemic meningitis in man has come to rest.

It is desirable here to recall that the injection of living cultures of *Diplococcus intracellularis* into the serous cavities of small animals, such as mice, guinea-pigs, and rabbits, leads to an intoxication and rarely to an infection causing their death.[4] The experimental effects thus produced are highly dissimilar to the lesions present in the natural disease in man. As a consequence, the mere combating of this experimental disease by means of an antiserum could not afford an adequate support for the employment of the antiserum in man. Early in his experiments, Dr. Flexner found it possible to produce in certain species of lower monkeys, among which *Macacus rhesus* was shown to be well adapted, an acute inflammation of the meninges, or meningitis, by the direct injection of active cultures into the subdural space of the spinal cord, after which there develop the lesions and sometimes the symptoms corresponding to those present in the natural disease in man (Flexner[4]). This being true, it is a fair assumption that if the antiserum is capable of controlling such an infection, its favorable action in the natural disease in man might be fairly predicted. This fact became an important basis for the employment of the antimeningitis serum in the natural infection with *Diplococcus intracellularis*, constituting epidemic meningitis in human beings.

In working out the properties of the antimeningitis serum, experimentally produced, the important fact was discovered that the serum possesses both direct and indirect power of destroying the meningococci. In common with normal serum, but in a far greater degree, it exercises direct bactericidal effect on cultures of the meningococcus. This influence depends in considerable part on the degree of concentration in which the serum meets the bacteria. Weak dilutions of the serum exercise little or no effect, while strong concentrations have a marked injurious action. Now, this necessary degree of concentration of the serum at the site of multiplication of the diplococci can fortunately be secured by injecting the curative agent directly into the membranes about the spinal cord and brain through so-called lumbar puncture, in which a needle is introduced directly into the spinal canal. The serum thus introduced needs to be applied to the site of the inflammation in a state of strong concentration. If the serum be injected beneath the skin or into the blood with a view of having it carried to the site of the disease, it suffers, first, an enormous dilution, and, secondly, fails to reach the site of inflammation in any considerable amount, for the reason that substances contained within the blood are eliminated very imperfectly into the cerebrospinal fluid.[5] As already pointed out, the mistake made by the German school followed on a lack of clear understanding of the essential principles underlying the action of the antiserum, which they failed to perceive because their employment of the serum was empirical, while, in America, the employment was based directly on the facts brought out by animal experimentation.

There is another point which should not be overlooked in considering the problem with which experimenters were confronted in the production of a curative antimeningitis serum. Once it was established not only that such a serum could be produced in animals, but also that it was capable of modifying favorably the course of experimental meningitis in monkeys, it became imperative to ascertain whether the serum injected into the membranes of the central nervous system exercised any injurious action on the adjacent sensitive nerve structures themselves. It would have been a hazardous undertaking to begin the injection by lumbar puncture of the antiserum into human beings, had it not been proved that repeated injections carried out in animals were without injurious effect. This fact was established by the successful treatment of experimental meningitis in the monkey by means of the antiserum, for the injections into the membranes arrested the inflammatory processes and destroyed the diplococci, so that the animals quickly returned to a normal condition, while no perceptible injurious effect resulted from the serum itself.

At this point, a strictly experimental basis had been secured for the employment in human beings of an antiserum in the treatment of epidemic meningitis. There remained to be determined, however, whether this antiserum was capable of being produced on a sufficiently large scale to make it available for the treatment of human beings during the prevalence of epidemics of the disease. The earlier experimental work was carried on with small animals, but it became necessary now to turn to larger animals for the purpose of producing adequate supplies of the serum. The horse was the animal chosen, for the reason that its serum is in itself practically innocuous when injected into human beings, and because it yields a large amount of blood readily. It was quickly ascertained that the horse was subject to immunization with cultures of *Diplococcus intracellularis* and would, through successive inoculations and after a time, yield an antiserum of high potency. The method of preparation of the antiserum consists in the injection alternately of cultures of *Diplococcus intracellularis* and an extract soluble in water prepared from the cultures. The animals are, at the beginning of the treatment, highly susceptible to the effects of the injection of the diplococcus, so that it has been found well to employ, first, cultures which have been killed by heat at 60 C., and, later, when the animal has adapted itself to the injections and developed resistance, to resort to the living bacteria. In order to secure a serum rich in the curative or the so-called immunity principles, it was found advisable to continue the process of immunization from four to six months before collecting serum for therapeutic use.

If we undertake to summarize the manner of action of the antimeningitis serum in combating epidemic meningitis, we may say (a) that it possesses the power of acting directly on, and inhibiting the growth of, or of destroying outright, the meningococcus; (b) that it possesses the property of increasing phagocytosis and promoting intracellular digestion of the diplococcus, through which the latter is at the same time detoxicated; and (c) that it exerts a certain neutralizing action on the soluble toxic products set free by the growth and by the disintegration of the meningococci (Flexner[3]).

THE TREATMENT OF EPIDEMIC MENINGITIS IN HUMAN BEINGS WITH THE SERUM

The antiserum had now been perfected. It had also been employed to cure experimental meningitis in monkeys. It had proved to be free of injurious effects when injected directly into the spinal canal of these animals. The question that now pressed was, Would it succeed in curing epidemic meningitis in human beings, and could it be injected with safety into the spinal canal of man?

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[4] Flexner: Jour. Exper. Med., 1907, ix, 105.
[5] Flexner and Jobling: Jour. Exper. Med., 1908, x, 141; idem, p. 690.

The first opportunity to test the antimeningitis serum in human beings in the United States occurred in April, 1907. The publication of the effects of the serum in controlling experimental meningitis in monkeys led Dr. Crile,[6] of Cleveland, to bring to the attention of Dr. Flexner the fact of the prevalence of an epidemic of meningitis in the village of Castalia, Ohio. This epidemic, which was followed later by other epidemics of the disease elsewhere in Ohio, supplied the first opportunity to test the serum on human beings. The serum was first entrusted to Dr. L. W. Ladd,[7] of Cleveland, who proceeded to Castalia and made the first injections of the serum. Since the experiment now to be performed was of such significance, it assumed a dramatic character. To give some indication of the circumstances under which the serum was first applied in human beings, it should be stated that the village of Castalia has a population of about 600 persons, and that there developed there and in the country adjacent eighteen recognized cases of epidemic meningitis between January and April, 1907. Eleven of the eighteen cases were in adults and seven in children. Among the eighteen cases, there were twelve deaths and six recoveries. Among the latter, there were three recoveries without serum treatment. In all, three cases only were injected with the serum and all recovered. The serum was brought to Castalia in the early part of April at about the time that the epidemic was abating and new cases ceasing to arise. No conclusion, beyond the one that the injection of the serum into the spinal canal was itself not a source of danger in human beings, could be drawn from this small experience.

Epidemic meningitis appeared at Akron, Ohio, in April, 1907,[8] and embraced about twenty cases. Of these twenty cases, in nine the serum was not administered, either because they occurred before the antiserum was brought to Akron, or for other reasons. Among these nine cases, there was a single recovery. In contrast to this appalling result is the fact that in eleven cases of the disease, established as such by symptoms and bacteriologic examination, and treated with the antiserum, eight patients recovered and only three died. The epidemic continued to extend in Ohio, and appeared at Cleveland and then at still other points, so that now the serum began to be applied immediately as the disease arose. In each locality, however, certain patients were not subjected to the serum treatment and could be compared as controls with the cases which were treated with the serum. On the whole, the results were consistent. Without exception, more patients recovered under the influence of the serum treatment than without it.

The testimony of physicians very early was to the effect that the antiserum not only reduced the mortality, but that it exercised a highly favorable influence on the symptoms, course, manner of termination, and liability to relapse, of the disease. Besides the obvious effects on the clinical course of the disease, the serum also produces a marked and readily demonstrable beneficial influence on the inflammation existing in the membranes of the spinal cord and brain. It has now been shown that very soon after the intraspinal injection of the serum, the meningococci tend to be reduced in number in the inflammatory exudate, to disappear from its fluid parts, to be taken up partly or wholly by leukocytes, and to undergo disintegration. One of the striking effects of the serum injections is so to injure the meningococci that their cultivation outside the body is rendered difficult or impossible. Along with the destructive action of the antiserum on the meningococci go certain favorable changes in the inflammatory exudate through which it loses turbidity and tends to become clear. Closely associated with the loss of leukocytes by the cerebrospinal exudate, which attends its return to a limpid condition, is the reduction in the number of the general leukocytes of the blood, which, in favorable cases going on to recovery, fall rapidly and even critically in number (Flexner and Jobling[3]).

Dr. Flexner and his associate, Dr. Jobling, who gathered the first considerable list of cases treated with the serum, believed that their first publication, which included reports of about one hundred cases, was based on too small a number to justify any final deduction as to the value of the serum. Epidemic meningitis, in the meantime, continued to invade new territory in the United States, and to prevail in various localities abroad, so that additional data were being constantly secured concerning the action of the serum.

I will select a highly interesting and important example, which will serve to bring out the striking effects of the serum. Epidemic meningitis had begun to prevail severely in Ireland in 1907. One of the worst centers of the epidemic was Belfast, where a large number of patients with the disease came under the care of Dr. Robb,[9] who was the physician in charge of the important fever hospitals. His report on the disease states that in the first eight months of 1907, 255 patients were admitted to the hospital, among whom the mortality was 72 per cent. Within the last three months of this period, 45 patients were admitted, and this group showed a mortality of 82 per cent. In September of that year, the use of the antiserum, which had been obtained from the Rockefeller Institute, was begun. The first report deals with thirty patients treated in hospital with the serum, of whom twenty-two recovered and eight died, giving a mortality of 26 per cent. In the precise corresponding period, thirty-four patients were treated outside of hospital and received no serum, among whom the mortality was 85 per cent. The marked reduction in the mortality is not the only effect which Dr. Robb attributes to the serum. He points out that the clinical course of the disease is profoundly modified, and that in the patients treated with the serum, the period of illness is reduced, the long chronic course is practically eliminated, and the serious permanent consequences are greatly diminished. The highly favorable effects of the serum, which Robb emphasizes, constituted by no means a unique experience. The earliest observers in this country, and notably Chase and Hunt and Dunn,[10] dwelt on practically the same points. In the large number of reports which have appeared in print in the meantime a virtual corroboration of these early favorable observations has been presented.

THE EFFECT OF THE SERUM TREATMENT ON MORTALITY STATISTICS

Let us consider the influence of the serum treatment of epidemic cerebrospinal meningitis on the mortality of the disease as indicated by a statistical computation. In order to arrive at statistics which are strictly reliable, it is necessary to take into account only the cases in which the diagnosis has been established beyond peradventure. The establishment of the diagnosis is based partly on the clinical symptoms, but chiefly on the bacteriologic examination of the fluid removed by lumbar puncture from the cerebrospinal canal. Ultimately, the bacteriologic diagnosis is the more important, for the reason that, as we now know, other types of infectious *meningitis may* arise occasionally in the course of the epidemic disease, and the two are subject to confusion.[11] Moreover, when the clinical symptoms are alone utilized as a basis of diagnosis, there is always the possibility of confusing diseases not strictly due to inflammation of the meninges with epidemic meningitis.

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[6] Neufeld: Med. Klin., 1908, ii, 1341. Jobling: Jour. Exper Med., 1909, xi, 614.

[7] Ladd: The Journal A. M. A., 1908, ii, 1315.

[8] Chase and Hunt: Arch. Int. Med., 1908, i, 294.

[9] Robb: Brit. Med. Jour., 1908, i, 382; ii, 1341.

[10] Dunn: The Journal A. M. A., 1908, ii, 15. For method of administration see Boston Med. and Surg. Jour., 1908, clix, 743.

In recognition of these possible sources of error, Flexner and Jobling[3] collated the reports of the disease from many different sources in America and Europe, basing *their figures on cases in which the bacteriologic diagnosis was established. They found that the mortality* reached by the disease during the height of the epidemics in the United States, Great Britain and Germany, was fairly the same and approximated 75 per cent. It is interesting in this connection to learn that the mortality of the sporadic form of the disease, as it has prevailed for the last few years in the United States, has not been considerably below 75 per cent., and it has sometimes been higher. If we consider the extremes of mortality *occurring in non-serum-treated cases of cerebrospinal* meningitis, proved to be caused by the meningococcus, we shall find that the figures range from about 68 per cent. to about 91 per cent. In his latest *publication, Flexner[3] has subjected to analysis 712 cases* of bacteriologically proved epidemic meningitis, in which the serum had been employed. This series of cases included all ages and periods of life, from infants a few weeks old to adults of advanced years. The collection has been made from a wide area, including the United States, Canada, Great Britain and France, so that it covers a wide variety of cases of the disease treated by practitioners generally, some of whom had had no previous experience with *the use of the serum, and others* who had used it in several scores of cases. Moreover, the serum had been applied at all stages in the course of the disease, namely, very early and very late after the appearance of the symptoms, and even toward the end of chronic cases. Consequently, in considering the value of the serum, it is desirable to take into account not only the gross mortality, but also the mortality as calculated according to the ages of the patients and the period of the disease at its first *application.* Epidemic meningitis is not equally fatal at all periods of life. Thus, in the very young the mortality tends to be very high, and in infants approximates 90 per cent. to 100 per cent. The disease is less fatal in older children and in young adults.

In the 712 cases analyzed, 488 patients recovered and 224 died, giving a gross mortality of 31.4 per cent. If we consider the important age groups, as *they are known* to affect the mortality, *we shall find that among children* from one to two years of age, of whom 104 cases were included in the tabulation, the mortality was 42.3 per cent. This figure represents an obvious great reduction, since, as has been stated, epidemic meningitis among infants of such tender ages has terminated fatally in the past almost invariably. Of the age groups between 2 and 15 years, there were 326 cases included in the tabulation, among which the mortality was 23.4 per cent. After the fifteenth year, the *mortality, as represented by* the tabulation, rises and exceeds 30 per cent. It would seem, therefore, that the most favorable period for the *action of the serum, or for the favorable progress of the disease, is a certain middle period* between infancy and adult life; but this *immediate deduction is not justified* for the reason that other factors *must obviously* be considered, such as the period of the disease at which the serum treatment was begun and the degree of effectiveness *in the use of the serum which* experience supplies.

Let us consider what the figures become when we analyze the 712 cases mentioned, according to whether the treatment with the serum was begun early or late in the course of the disease. We may choose, *arbitrarily,* as periods the first three days, the second three days and, then, any time later than the latter. Analyzed in this way, it found that 180 patients were injected with *the serum within the first three days of illness, according to the clinical histories supplied, among whom the mortality* was 25.3 per cent. In the second period, which extended from the fourth to the seventh day of the illness, shown by the clinical signs, 179 patients were injected, in whom the gross mortality was 27.8 per cent. Now, 129 patients were injected later than the seventh day of the disease, among whom the mortality rose to 42.1 per cent. These total figures indicate unmistakably that early *serum injections* are more effective than the later ones, which fact has an important bearing on our conclusions concerning the value of the serum. Moreover, if we should pick out one or two especially striking *examples from the tabulation, the results become even* more impressive. For example, seventeen children ranging in age from a few weeks to 2 years were injected with the serum in the first three days of illness, of whom *only a single one died and sixteen recovered. This result* is altogether extraordinary, when it is *considered that in* this period of life the usual mortality of the disease approaches 100 per cent. It is not probable that such a favorable result can be generally achieved, but that it could be achieved *at all is a fact not* without profound significance.

It was mentioned that the tabulation showed that in the age period beyond twenty years the mortality was higher than at the earlier periods. It is desirable to ascertain, therefore, whether adults really are, as would *appear to be the case, less resistant* to the infection or less subject to the action of the serum than younger individuals. Some light is shed on this question by the examination of the results of the serum treatment among adults, observed by those whose experience with the serum has been *great* enough to make it probable that they would *obtain the maximum* advantages which its use affords. The reports of such experienced observers as Ladd, Dunn, Sladen and Fulton[12] in the United States, *Robb of Belfast, and* Netter[13] of Paris, go to *show that adults are not* less subject to the curative action of the serum than are younger persons. Among the 712 cases are records of sixty cases occurring among adults and treated with the serum by these experienced physicians *that, for all periods of the disease, show* a gross mortality of 30 per cent. The largest single series of patients of this age period was treated by Robb. It embraced twenty-four cases, in which only four *patients* died, giving a *mortality of 17 per cent.*

I wish now to reproduce a tabulation (Table 1) compiled by Flexner,[3] which exhibits the prevailing mortality of epidemic meningitis in America, Great Britain,

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[11] Dunn: Am. Jour. Dis. Chil

[12] For American and foreign bibliography consult *Flexner, Internat. Clin.*, 1909, iv, series 19; also Schepelmann, Wien. klin. Wchnschr., 1911, xxiv, 118.

[13] *Netter:* Bull. de l'Acad. de méd., séance du 27 Juillet, 1909; Assn. française de pédiatrie, 1910.

Germany and France, according as the patients were or were not treated with the antimeningitis serum. The table has not been brought up to date, so that it does not include the latest American and Parisian figures. But it still suffices to impress its lesson.

TABLE 1.—REPORTED SERIES OF PATIENTS TREATED WITH THE ANTIMENINGITIS SERUM AND THE MORTALITY AMONG NON-SERUM-TREATED PATIENTS

By Whom Reported.	Number of Serum-Treated Patients.	Per Cent. Mortality.	Per Cent. of Mortality of Patients Non-Serum Treated.
AMERICA			
Dunn *	40	22.5	70
Chase and Hunt *	12	25	90
Sladen *	23	13	64
Fulton *	22	31	78.4
Koplik *	15	13.3	60
Ladd *	31	35.5	?
Morgan & Wilkinson *	10	30	?
GREAT BRITAIN			
Robb *	90	30	75
Ker *	30	43	80
GERMANY			
Krohne †	59	40.6	66
Schoene ‡	30	27	53
Levy †	23	21.7	78
Többen †	29	34	56
FRANCE			
Nettef *	50	18	83

* Flexner serum employed.
† Wassermann serum employed.
‡ Jochmann serum employed.

I have pointed out that one of the striking facts that speak for the value of the serum treatment is its greater efficiency when it is applied early in the course of the disease. How great the difference in effect is, according as the serum is applied early or late, is shown by the next tabulation (Table 2), which is taken from a recent report of Dopter.[15] He adopts the classification introduced by Flexner and Jobling, and considers the cases as they have come under the serum treatment in the three arbitrary periods discussed in a previous section. It should be remarked that Netter's figures are based on cases treated in Paris with the serum prepared at the Rockefeller Institute, while Dopter's figures are based on cases treated in France with the serum which he prepares at the Pasteur Institute.

TABLE 2.—MORTALITY IN EPIDEMIC MENINGITIS UNDER SERUM TREATMENT; CASES ANALYZED ACCORDING TO PERIOD OF INJECTION

Period of Injection.	Flexner.	Netter.	Dopter.
First to third day	14.9%	7.14%	8.20%
Fourth to seventh day	22.0%	11.1 %	14.4 %
Later than seventh day	36.4%	23.5 %	24.1 %

The influence of age on the fatality of epidemic meningitis has already been alluded to, so that it becomes important to ascertain to what extent this factor can be eliminated through the specific serum treatment. Undoubtedly, increasing experience with the use of the serum is tending to remove the great differences hitherto observed; and the extent to which the age factor is being set aside is well shown by Table 3, taken also from Dopter's[15] last report. In interpreting this table, account should be taken of the fact that the epidemic of meningitis in France is the latest to have appeared in Europe and set in at a time when increasing experience elsewhere had shown the most effective way of administering the serum. This is probably the reason why Netter's and Dopter's figures are the best yet secured. That the epidemic was of average severity is shown by the mortality in non-serum-treated patients, which approximated 70 per cent.

TABLE 3.—GROSS PERCENTAGE MORTALITY IN EPIDEMIC MENINGITIS UNDER SERUM TREATMENT, CASES ANALYZED ACCORDING TO AGE OF PATIENTS

	Reported by		
Age Groups.	Flexner*	Netter†	Dopter‡
Under one year	50.0%	50.0%	48.6%
One to two years	42.1%	0.0%§	20.1%
Two to five years	23.5%	16.6%	9.3%
Five to ten years	11.4%	12.5%	8.5%
Ten to twenty years	23.8%	0.0%¶	10.2%
Above twenty years	26.4%	0.0%¶	14.1%

* Rockefeller Institute serum administered by practitioners generally.
† Rockefeller Institute serum administered by Professor Netter.
‡ Pasteur Institute serum. Manner of administration not stated.
§ Six cases.
¶ Eight cases.

I wish now to present a bit of personal evidence in the form of a chart based on the cases of epidemic cerebrospinal meningitis, in which the patients have been admitted to the Children's Hospital in Boston since the year 1900. The average number of patients treated each year in the hospital is twenty. Up to the year 1907, a variety of modes of treatment were employed without accomplishing any real effect in diminishing the fatality of the disease. When the serum treatment was introduced in 1907, the mortality was at its height, that is, at about 80 per cent. The sudden decrease in mortality attributable to the serum treatment is shown in the sharp drop in the curve and its continuation, with minor fluctuations, at this low level.

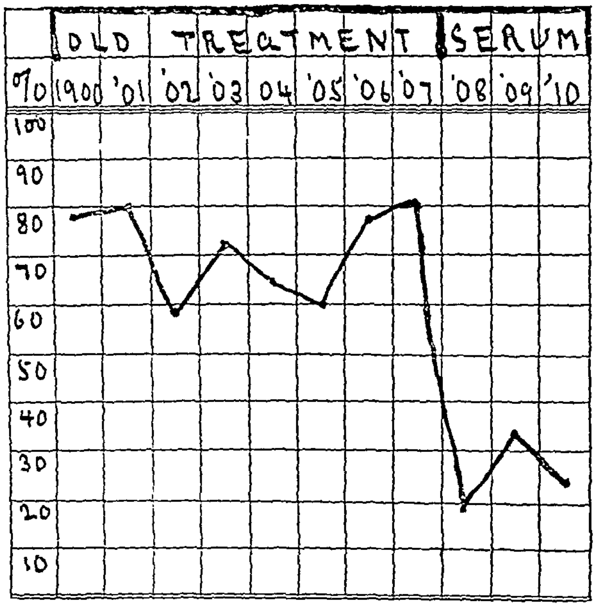

Chart showing the mortality from epidemic cerebrospinal meningitis at the Children's Hospital in Boston before and after the use of the serum treatment, during the eleven years since the diagnosis has been regularly confirmed by bacteriologic examination of the cerebrospinal fluid. The serum treatment was begun after Nov. 1, 1907. Each year shown in the chart is taken as beginning November 1 of the preceding calendar year.

ATTENUATION OF THE SYMPTOMS

There is still another way in which the favorable action of the serum is disclosed, namely, in respect to the effects produced on the symptoms, course, duration, *manner of termination* and permanent consequences of the disease. In discussing this topic, I shall draw largely on my personal experience with more than 100 patients treated with the serum, and I shall also supplement my observations with extracts from the experience of others. I have been able, up to this time, to subject only eighty of the cases to exact analysis from the present point of view; but I can state that the remaining twenty cases showed the same general effects.

I regard the favorable influence of the serum on the general condition and symptoms of the patients as the most impressive immediate phenomenon. It often happened that within twenty-four hours there was a permanent return to consciousness, disappearance of the mental dulness or delirium, removal of the racking headache, relief of the hyperesthesia and control of the vomiting—all very distressing symptoms that accompany severe infections. To see patients pass within twenty-four hours, after one or two injections of the serum, from a state of great distress and unconsciousness to one of almost normal mentality is something the impressiveness of which is not easily to be overestimated.

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[15] Dopter: Ann. de l'Inst. Pasteur, 1910, xxiv, 96.

Not every patient responds in this rapid manner to the application of the serum. Some patients who recover show a more gradual improvement in condition and symptoms; and still others, and particularly those in the late chronic cases, fail entirely to respond. The effects that are the slowest to yield are rigidity of the neck and Kernig's sign. Children in every other way normal may, at times, be observed playing in the ward while still having the neck retracted and yielding Kernig's sign. In Table 4 I have assembled and analyzed the eighty cases according to the manner of improvement.

TABLE 4.—MANNER OF IMPROVEMENT IN SERUM-TREATED CASES

Immediate and marked	34 cases
Immediate and slight	14 cases
Immediate and temporary	7 cases
Slow improvement	15 cases
No improvement	10 cases

We find, therefore, that the influence of the serum on the symptoms of epidemic meningitis coincides with the effects exerted on the local inflammatory exudate and the viability of the meningococci. In all but a few resistant cases, the diplococci are quickly rendered incapable of multiplication and the inflammatory process is arrested and brought to rapid resolution.

Another striking effect is on the course of the disease. The average period of duration of cases going on to recovery may be gathered from the calculation of Holt, based on the New York epidemic of 1905-6. Holt[16] states that in 350 patients who recovered before the serum was perfected, the disease endured one week or less in 3 per cent., and five weeks or longer in 50 per cent. These figures are to be contrasted with those of Flexner and Jobling,[3] who found that in 288 serum-treated patients the active symptoms persisted on the averages eleven days after the first injection.

The action on the manner of termination of the disease is also striking. Epidemic meningitis rarely terminates spontaneously by crisis. Indeed, the disease is better characterized as an infection tending to a fatal termination, or to a prolonged course and frequent relapses. Recovery when it occurs tends to be gradual or by lysis and almost never abrupt or by crisis. Yet in 275 serum-treated patients whose cases were analyzed by Flexner and Jobling,[3] the symptoms disappeared by lysis in 200 and by crisis in seventy-three. Hence, it can be concluded that about 25 per cent. of patients recovering under the influence of the serum do so by crisis. Robb, Dunn, Netter, Dopter and others have all observed and dwelt on the amelioration of the symptoms brought about by the serum treatment.

RARITY OF PERMANENT SEQUELÆ

The serious permanent effects of epidemic meningitis are chiefly deafness, blindness, paralysis and idiocy. It is necessary to consider to what degree these blighting results of the disease are affected by the serum treatment.

Flexner and Jobling[3] were the first to point out the infrequency with which serious consequences followed on the epidemic disease when patients were treated with the serum. Since then, and as larger and larger series of cases have come to be reported, other authors have emphasized the same fact, and notably Netter.[17] The serving consequences are of two kinds: one temporary, although persisting for some weeks or months; among these are lesions of the joints and partial deafness. Ultimately they disappear. The others are permanent, and include deafness, blindness, paralysis, etc. The joint affections can themselves be influenced by the serum treatment, since some of them are caused by secondary localizations of the meningococci in the joints, causing suppurative inflammation, which can be terminated, as Ladd[7] and later Netter[17] have shown, by direct injection of the antimeningitis serum into the inflamed part.

CONCLUSIONS

The published reports on the action of the antimeningitis serum leave no doubt of its value in the treatment of epidemic meningitis. No one can read the conservative report of Flexner and Jobling,[3] who regarded 400 cases as too few on which to base a final decision of the value of the serum, or the reports by many physicians based on observations at the bedside, without being convinced that this severe and pathetic disease has been largely conquered by means of specific serum-therapy. Those who were spared the pain of attending the disease before the days of the serum treatment cannot well imagine how hopeless was the outlook presented to the physician and how helpless he felt in the presence of this malignant malady; and it is, therefore, almost equally difficult to appreciate, by contrast, what a boon it now is to have at command this powerful remedy.

How all this has been accomplished cannot fail to interest all those who are concerned with the conquest of disease. The steps of the achievement I have endeavored to trace in the first part of this paper. The benign result was accomplished by scientific investigations, carried out logically, step by step, and directed toward the definite end of finding a cure for epidemic meningitis. We owe this cure entirely to animal experimentation, for it was through experiments on animals that the additions to our knowledge regarding this difficult problem were won, which culminated in the finding of the curative serum, and thus in the control, to a great extent, of the disease.

It can scarcely be questioned whether this scientific investigation was worth while, or whether the benefit accruing to humanity outweighs the sacrifice of the score of monkeys which contributed to the final result. In estimating the cost of the achievement, the fact should not be lost sight of that while the experimental part of the work leading to the discovery of the antimeningitis serum need never be repeated, the saving of human misery and of human lives, through the application of the serum, will go on indefinitely until such time as by the rigid application of hygienic preventive measures, many of which still remain to be discovered, epidemic meningitis is eradicated from the world.

The antimeningitis serum was kept under control by the Rockefeller Institute for more than three years while its action was being subjected to the closest clinical scrutiny, during which time it was being supplied gratis to hospitals all over the world. The control has just been relinquished and its preparation and distribution turned over to health authorities and private individuals. This action has been dictated by the consideration that the value of the serum as a curative agency is no longer under discussion, but has been established by as rigid clinical tests, carried out in many countries, as could well be devised.

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[16] Holt: Brit. Med. Jour., 190[illegible], ii, 1336.

[17] Netter: Bull. et mém. Soc. méd. d. hôp. de Paris, 1910, p. 131.

We may, therefore, conclude with Dr. Flexner,[3] who, in his last report embracing 712 cases of epidemic meningitis, in which the patients were treated with the serum, says:

> In view of the various considerations presented, the conclusion may be drawn that the antimeningitis serum, when used by the subdural method of injection, in suitable doses and at proper intervals, is capable of reducing the period of illness; of preventing, in large measure, the chronic lesions and types of the infection; of bringing about complete restoration of health, in all but a very small number of the recovered, thus lessening the serious, deforming and permanent consequences of meningitis; and of greatly diminishing the fatalities due to the disease.

220 Marlboro Street.

THE OPTOMETRY QUESTION AND THE LARGER ISSUE BEHIND IT *

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Before they were appreciated as an agency for the prevention and cure of disease, glasses had been used for five hundred years. The optical properties of lenses and of the eye had been worked out by physicists, Galileo, Keppler, Gauss, Brewster and others. Skilled opticians had met every demand made on them to correct the optical deficiencies of the organ of vision. Yet only a small minority of elderly people put back the limitations of age by wearing spectacles for reading. Perhaps one myope in fifty had extended his range of vision by concave lenses. The royal astronomer at Cambridge, England, and a philosophic clergyman in New York, with the help of a Philadelphia optician, had worked out corrections for their own astigmatism.

Meanwhile Milton, Eulenberg and many other scholars went blind from eye-strain. Pepys, at the age of 37, laid aside his inimitable diary, giving up a hopeless struggle with hyperopia, and preparing for blindness which never came, though he lived thirty years afterward. Educated Germany grew largely myopic, and the great mass of suffering from eye-strain and disability caused by ametropia went wholly unrelieved.

But sixty years ago a trained physiologist and physician, Donders, became interested in the optical defects of the eye. Other men trained in medicine took up the subject—Snellen, Knapp, Dyer, Weir Mitchell and their successors. The influence of errors of refraction and their correction was seen from a new point of view, and the use of spectacles was enormously extended. To-day more lenses are worn for correction of eye defects in a single city than were used sixty years ago in the whole world.

From the imperfections of the human eye that disqualify it for meeting the requirements of modern life, and the ability to give relief by properly chosen lenses, there has developed a great industry engaged in supplying the mechanical aids to vision, and a great opportunity for professional service in bringing to each individual the peculiar assistance required. As in the opening up of any new field of activity, men have rushed into this one to exploit the opportunities here offered. Among the medical profession a certain number have appreciated this field for service, and the rewards for such service. On the other hand, among those who approached it from the non-medical, the mechanical and commercial sides, many have perceived its richness. Each party has pushed forward, proclaiming its superior right, by priority and fitness, to the field in question, like prospectors in a new mining camp. In this way has arisen the optometry question, which now seems to be reaching its most acute stage.

In discussing this question two important facts should be kept in view.

1. The process of estimating the refractive condition of the eye is a distinct technical process. It is as different from a chemical analysis, a microscopic examination, a physical exploration of the chest, a skilful combination of drugs, or a capital operation on the brain or abdomen, as these are different from one another. Ability to measure the refraction of the eye is no more to be presupposed from ability to do these other things than is ability to remove a brain tumor to be presupposed from a possession of skill in chemical analysis.

2. Errors of refraction and their measurement are of general interest because of their broad general influence on health. Until this influence was recognized the economic importance of spectacles, or of their adaptation to the eye, was insignificant. All attempts to escape this relation of glass-fitting to health, and to the departures from it that constitute disease, will fail. Bearing in mind these two facts, the special character of the process of measuring the refraction of the eye, which may well entitle it to a distinctive name—optometry, and the clear inclusion of optometry within the circle of the healing arts, let us look at the present situation with regard to it.

THE OPTOMETRY LIE

In twenty-six states of this country and three provinces of Canada there are so-called "optometry laws." All of them are based on the supposition that the practice of optometry is actually and properly something apart from the practice of medicine. They assume that a person may be qualified to practice optometry who possesses but a superficial and theoretic knowledge of the eye, and who is ignorant of the structure, workings, and diseases of all other parts of the body. Let us discuss the subject on the basis of this theory, ignoring for the time the practice which, under each of these laws, has conferred the advertising advantages of a state license on all who have been engaged for a certain period in the optical business, without even such limited knowledge as these laws assume to be necessary.

The most able and brilliant champion of this theory of optometry, recognized as such by optical associations and journals, Mr. C. F. Prentice, president of the State Optometry Board of New York, has recently put forth a challenge to the editors of the medical journals. It includes seventeen statements, which he calls "tersely stated truths." These so nearly express the thoughts and claims of optometrists in general that some of the maxims have been adopted as mottos to be displayed on buttons at their optical meetings, in their advertising, and in the campaigns before the legislatures.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The first of these statements is "Physics is not physic." This is one of those epigrams, containing the literal, insignificant truth, which best serves to hide the larger falsehood implied in the use made of it. The words "physics" and "physic" are derivatives of the same Greek root, with history and meaning in common. They have become differentiated, the one to mean the science or sciences of the phenomena associated with matter in general, the other to mean the application of the resources of the material world to the relief of disease and suffering. Physics, like chemistry, may be so applied in the service of "physic" or medicine; indeed, to refuse the aid of physics to medicine would be as absurd as to deny medicine the aid of chemistry. The shaping of a lens, according to the laws of optics, belongs no more peculiarly to physics than does the shaping of a brace or splint; and either may be as true and legitimate a curative agent as a serum or a drug.

The second of these "tersely stated truths" is, "A lens is not a pill." No, it is not a pill; neither is a pill a hypodermic syringe, or a clinical thermometer, or a stethoscope, or a collyrium, or an operating-knife. But a lens, like all of these, may be used to prevent or cure disease or relieve suffering. Neither the lens nor the pill are of general interest simply because they are solids of a certain limited size, specific gravity, or color. They are of general interest because they may be made to prevent or cure disease or relieve suffering; because they are efficient means of accomplishing what men in general desire to accomplish. And for this reason they have equal claims to recognition in the armamentarium of those who practice the healing art.

Then Mr. Prentice goes on, (3) "A lens treats light"; (4) "A lens does not treat disease." The lens itself exerts the same influence on light in the engineer's transit, the astronomer's telescope, the microscope, the opera glass, or the photographic camera. In each of these uses of the lens some men are interested. But the general important interest that has thrust the optometry question into the arena of heated discussion and legislative action is the application of the lens to the relief of suffering or the treatment and prevention of disease. So when Mr. Prentice goes on to say (5) that "Optometry is not medical science," and (6) that "Optometry is founded on optical science," he has put himself pretty fairly in opposition to the facts he is trying to deal with.

Using the term "medical" in the broader sense in which it is generally used, and which every intelligent man understands, he would be far nearer the truth if he were to say that optometry is only a part of medical science. Optometry is the application of optical science to the purposes of medical science. But enough has been said to show the basis of independence and separation from medicine on which optometrists have claimed, and to some extent have secured, recognition as a distinct pseudo-profession.

To illustrate the falsehood of that claim one does not need to go beyond their own utterances. In the same number of the *Optical Journal and Review* from which Mr. Prentice's challenge has been quoted, I find in the first article what purports to be a statement of the permanent action of atropin on the accommodative function, "which our friends the oculists have not noticed." There is a paragraph as to diagnosing disease by the iris, which takes seriously a scheme of quackery that has arisen in Germany. For changes in the refraction of a case it is editorially suggested, "Possibly there is some pathogenic condition within the retinal blood-vessels which has caused them to swell at times." And for eyes that see print of different sizes; "It looks very much like a pathologic condition of the eye whereby the rods and cones are being forced apart, perhaps by some growth behind them." The address of Mr. Parsons before this Section last year is quoted *in extenso*. Of course, the medical opinions in any way adverse to the use of cycloplegics are paraded as completely settling the practical question of the use or non-use of those drugs. One of the articles is headed, "The Cooperation of the Patient"; and another, "How to Please your Patient"—not "customers" or "clients," but "patients," the term always used as correlative of physician or surgeon. One correspondent urges that the optometrists "should be allowed to use all means in order to make a proper diagnosis." "With a two or three years' course in a reputable college, optometrists will easily master the pharmacal, clinical, and therapeutic value of the very few drugs necessary in eye work." Another correspondent discusses the physiologic action of atropin, making comparisons with that of alcohol. It is not surprising also to find here that the Rhode Island Society of Optometry has decided, "that optometrists are justified in using the title of doctor, that it is a benefit to them from a commercial standpoint, and that it tends to elevate the profession."

The favorite definition of optometry in the laws relating to it is: "the employment of any means other than the use of drugs, for the measurement of the powers of vision and the adaptation of lenses for the aid thereof." Some of the laws require examinations in the anatomy and physiology of the eye. Others leave the scope of the examination entirely to the Board of Examiners. The discussions in the societies of optometrists and their advertisements show keen appreciation of the medical bearings of their work.

In their actions, which speak far louder than the words in which they plead for special legislation, the optometrists show that they understand that optometry, as they wish to develop it and practice it, is a part of the general practice of medicine. In their argument for th legal recognition they desire, they quote as a pertinen conclusive predecent, the profession of dentistry and it legal status; and when they do this they raise the tru question, the greater issue behind optometry.

SHALL THERE BE ONE OR SEVERAL PROFESSIONS OF MEDICINE?

This is the question that is facing, not only the ophthalmologist, but equally the whole medical profession and the public. No true profession will ever be permanently established on the narrow basis on which optometry legislation has been advocated. The measurement and correction of errors of refraction for the relief of symptoms will be associated with a knowledge of symptoms, and of the causes of symptoms, as well as of the general knowledge of the structure and functions, of the organs in which these symptoms arise, and of the application of other means to their relief.

In deciding whether it would be better that the body of workers engaged in the practice of different branches of the healing art should be divided among separate professional bodies, or if it would be better to have them in the specialized groups of a single profession, with common educational requirements, professional associations and ideals, the *precedent* of dentistry will have an important influence. It is generally admitted by the leaders of professional thought among the dentists, and by those who have given attention to the organization of the medical profession, that the separation between medicine and dentistry is to-day too wide for the best interests of either profession, or of the general public. Physicians should know more of dental pathology; dentists should know more of medicine. Dental organizations are endeavoring to raise the educational requirements for their profession more nearly to those of the medical profession. The recognition of dentistry as a specialty of medicine in our national medical organizations, especially in the Section on Stomatology of the American Medical Association, seems to indicate that the need and advisability of a profession of dentistry, as a separate profession apart from medicine, is by no means established.

It cannot be denied that dentistry as a separate profession has shown a remarkable development, and has accomplished great results in the prevention and cure of disease and the relief of suffering. It is better to have dentistry as a separate profession than not to have it at all. And to achieve its present development in the period in which it has developed, it may have been necessary that it should free itself from the trammels that might have been placed upon it by the leaders in the medical profession, who were not sufficiently informed or interested with regard to its needs to render it any valuable assistance.

But in this respect the case of ophthalmology is quite a different one. The development of ophthalmology has been somewhat hindered by the professor who insisted that he could teach all it was necessary to know of diseases of the eye in two of his surgical lectures; and by the men who, as students, listened to such inadequate presentation of the subject, and who now as leaders and seniors in the medical profession fail to appreciate either the extent or the practical value of ophthalmic science. But even in the particular branch of optometry development has been wholly within the medical profession, from Helmholtz and Donders to George T. Stevens and George M. Gould, the advances in optometry, and even the popularizing of it have been the work of men within the medical profession.

The optical journals to-day mix their articles on lens-grinding, frame-fitting, window-dressing, and newspaper advertising with quotations of all articles written by members of the medical profession bearing on optometry. The medical journals are still the chief source of this part of their literature, which is supplemented by articles written by men of medical education who find their chief sources for practice and revenue among the optometrists. Only since they started out to convince the legislatures that optometry was physics and not physic, have these journals begun to call on professors of physics for statements of those laws and facts of optics which have an established place in the annals of mathematical science alongside the propositions of Euclid. The books which are advertised to the optometrist and which he is advised to study have either been written by members of the medical profession, or paraphrased from standard works by the older authorities on ophthalmology. This specialty, which has arisen within the lines of medical practice, cannot fairly be compared with dentistry of outside origin.

In another aspect of practical importance optometry differs from dentistry. The dentist can find full employment and an adequate income in the service of a comparatively few people. As one of them has put it, he has thirty-two patients in each mouth. Few people who take care of themselves can go more than a year without spending some time in the dentist's chair. A dentist may have plenty of work though his reputation reaches but a very few hundred people. On the other hand, the oculist may have loyal patients, and render them every service they need, and yet several years may elapse between their visits. If his work is confined strictly to the specialty of ophthalmology, he will be kept busy, and command a fair income, only when he is known by reputation to thousands. Deprive the oculist of the opportunity of becoming known through the recommendation of those who are practicing other branches of medicine, and it would be difficult for him to achieve a full practice without resorting to the methods of modern newspaper advertising. Separate ophthalmology from the other branches of medicine, and the self-praising newspaper advertiser would be placed at a distinct advantage.

But the important reason that ophthalmology should remain a recognized branch of general medicine is that the eye has most intimate relations with other important organs; and in its structure presents, readily accessible to observation, specimens of the more important general tissues of the whole body. Its lesions are samples of the changes which general morbid processes work elsewhere. They furnish the evidence of changes in other organs of the highest importance in general diagnosis. They are to be successfully combated by general remedies, diet, change of climate, internal medication, vaccine, and serum-therapy, as well as by local measures. The close connection with ophthalmology is as important to both general medicine and surgery as is that connection of each with the other, the ignoring of which, as pointed out by Clifford Allbutt and others, caused the sterile centuries of medical history.

WHAT IS TO BE DONE?

In view of the fact that optometry is a part of medical science and art that will not and cannot be dissociated from the diagnosis and treatment of non-refractive defects and diseases of the eye; in view of the fact that it is very important that those who practice ophthalmology should be trained in general medicine, and should continue within the medical profession in close association with those who practice other branches of the healing art: what should be done with regard to the present agitation for the recognition of optometry as a separate profession?

The attempt to ignore that agitation is folly, but mere opposition, the determination to "stand pat," is almost equally fatuous. If the optometrists are able to convince the public and the legislatures that laws are needed to protect the eyes of the people from the doings of optical fakers, mere opposition to any and every law on the subject places the medical profession in a false and indefensible position. If something is proposed as a measure to protect the public health, it is not for those who claim the right to advise on all such matters merely to oppose, while themselves suggesting nothing. It is more consistent, more public-spirited, and more effective, to endeavor so to modify legislation as to make it supplement and support the laws now enforced with reference to medical practice.

Every optometry law hereafter enacted or amended should be made to draw a sharp distinction between the license to fit glasses, and the license to practice medicine. In limiting the operations of optical fakers, it must not overlook those fakers who desire to use the word "doctor" for the purpose of confusing the public as to the training and fitness of the man who has studied only "physics" and not "physic." The simple insertion of a clause like the following, taken from the bill before the last session of the Colorado legislature, would rob optometry laws of most of their power for evil.

> "Nothing in this act shall be construed to apply to persons licensed to practice medicine in this state, or to give any person the right to attach the title M.D., surgeon, doctor, physician, oculist, ophthalmologist, eye-specialist, doctor of refraction, *doctor of ophthalmology*, doctor of optometry, or any word or abbreviation to his name indicating that he is engaged in the treatment or diagnosis of diseases of, defects, or injuries of the human eye, or to use drugs or medicine in any form for the treatment or examination of the human eye, or to use any therapeutic measures or agencies other than glasses for the treatment of the human eye."

No doubt such a clause would diminish the attractiveness of a license for "optometry"; and in the end might prevent the development of that pseudo-profession of which some optometrists dream. It would strictly confine the advantages of the license to the comparatively few intelligent, well-trained opticians, who wish only to work at the measurement of refractive errors and the fitting of glasses. The existence of such a class will never seriously endanger the public health, or interfere with the normal development of ophthalmology as a medical specialty.

But the most important thing the medical profession has to do is to provide for the adequate teaching of ophthalmology, including optometry, in the medical schools; to meet the needs of the practitioner of other branches of medicine, and to build up a definite class of practitioners especially trained to recognize and treat the defects and disorders of the eye. It is the failure properly to perform this duty toward the public that is responsible for the optometry question, and the larger issue of a division in the medical profession. Ophthalmology can be learned without special schools or systematic courses of teaching. Medicine and surgery were so learned by apprenticeship for hundreds of years. But the apprentice system is gone from medicine, as it is gone from the mechanic arts. As matters stand now, the graduate, after a scanty introduction to ophthalmology in the medical school, is permitted to pick up ophthalmic knowledge and skill here and there, from desultory reading, by study of chance cases, in the unsystematized clinics of postgraduate schools, from the courses of self-constituted teachers, and by a partial return to the apprentice system through assistantship in the eye clinic or private office.

This has made ophthalmologists of apt students, sufficiently conscientious to persist in the effort to obtain knowledge under difficulties. But it has also created a large number of fakers within the profession—men who pose as specialists before colleagues slightly less informed than themselves, and before the still more ignorant general public. This system, which is a lack of system, has not met the legitimate needs of the profession, or the best requirements of the public. The feeling that although a physician's license to practice gives the privilege of ophthalmic practice, it does not guarantee any fitness for such practice, has led the public to be ready to look for ophthalmic advice outside the profession as well as in it.

The establishment of the degree of Doctor of Ophthalmology, and of the course leading to that degree, in the University of Oxford points to a practical way of meeting the need of the profession and the public for some authentic evidence of fitness to practice ophthalmology. The offering of such a degree, based on requirements of graduation in medicine and evidence of special acquaintance with ophthalmic science and art, by a few of our better American universities would sweep away the false conditions, the lie in medical education, out of which the optometry question has grown. There can be no better time than to-day, and no better place than the Section on Ophthalmology of the American Medical Association for starting a demand on the part of the medical profession for the adequate teaching of ophthalmology in all well-equipped, efficient schools of medicine.

530 Metropolitan Building.

ABSTRACT OF DISCUSSION

At the conclusion of his paper Dr. Jackson offered the following resolutions and moved their adoption:

WHEREAS, A thorough preparation for ophthalmic practice requires the study of certain subjects not demanded of the candidate for the degree of doctor of medicine.

Resolved, That the American Medical Association, through its' Section on Ophthalmology and its House of Delegates, expresses the desire that at an early date courses in ophthalmology requiring previous graduation in medicine and one year's work in an accredited ophthalmic hospital and dispensary service shall be established in each medical school possessing the necessary facilities.

Resolved, That the Council on Medical Education is hereby requested to consider the curriculum for such a course.

These resolutions after discussion were unanimously approved by the Section and by the House of Delegates.

DR. W. E. LAMBERT, New York: The passage of the optometry law in New York was due to the indifference of the profession at large, and to certain unfortunate conditions as to representatives of the ophthalmologists in Albany at the time the opposition was made to this law. I happened at the time the law was passed to be chairman of the Academy of Medicine of New York and of the New York Ophthalmological Society, and also on the committee on legislation of the County Medical Society. So that I went to Albany with this committee and endeavored to oppose the passage of this bill, without any success, and the reason for it was that we had no support from the profession at large, and very little even from our colleagues in ophthalmology. I therefore think that one of the first and most important things to do in opposing this thing is to educate our fellow doctors as to the evils and dangers of optometry; that the treating of errors of refraction and ocular diseases should be done by those having a medica education. It is surprising how many medical men in Nev York City refer their headache cases to the opticians. On optician had a list of 500 physicians who send their patients t him for glasses. A reputable physician in New York took hi patient himself to one of these optometrists to have his eye treated. This patient came under my care subsequently. H had albuminuric retinitis and died in one year. The Nev York Ophthalmological Society was lukewarm on the subjec until recently, when they were stirred up by the action o Columbia University in establishing a course in optometry i their course of extension teaching. This was establishe without the knowledge of the medical faculty, and in the circular advertising the course they called attention to the "new profession of optometry established by this course in Optometry in Columbia University." The optical journals were full of this. They were advertising themselves as pseudo-ophthalmologists, claiming the privilege of calling themselves doctors when they had a certificate from Columbia. The New York Ophthalmological Society took the matter up. I was a member of the committee from that society, as were Dr. Knapp and Dr. Thompson, and it was brought before the county society. We sent out a circular to the well-known ophthalmologists in the city asking them to send us a list of cases in which serious diseases had been overlooked, but treated by glasses. In reply to this we received a list of fifty or sixty cases of glaucoma, tumors and other diseases. We presented the report to the New York Ophthalmological first and protested against the establishment of this course in Columbia, and were authorized to bring the matter before President Butler. He said he was not familiar with the situation himself and would ask that Professor Egbert be present. Dr. Egbert called on me and tried to persuade me that they were compelled to do this, that pressure had been brought to bear on them in Albany. It was simply to provide a route whereby men could be educated sufficiently to conform to the law of the state which had created this class of gentlemen calling themselves optometrists. However, I saw very plainly that he had been converted to the ideas of the optometrists, the chief disciple persuading Egbert that they were right, or other means had been employed, and the thing to do was to take it to President Butler. Dr. Thompson presented the subject to him. The result is that while they have not decided to withdraw the course they have modified it so that it will not be particularly objectionable, withdrawing the word "optometry." It has been a very serious handicap to the opposition.

Dr. Sherman Voorhees, Elmira: Last winter I prepared a letter to the profession about my city, some 500 or 600 men. I set out the status of the opticians and what harm this New York law had worked, and also stated to them that many physicians, as Dr. Lambert has said, were sending their patients to the opticians, or optometrists. The replies which I got to that letter were very gratifying. I think it did a great deal of good. I was not aware that the letter would fall into the hands of the committee of the A. M. A., but it did, through Dr. Thorington of the Pennsylvania society. I believe it would be a good plan for the ophthalmologists to call the attention of the physicians personally to the working of this law. We are troubled terribly in our locality with the optometrists. They do a great deal of damage. I think I have operated three times for glaucoma in the past year in cases in which the optometrist told the patient his eyes would be all right and that he could cure him. After he got accustomed to the glasses vision would return. There is one thing that catches the medical profession and the people alike. The optometrists tell the people that if there is anything the matter with their eyes they will send them to the ophthalmologist, but as we know, many diseases of the eyes cause no local manifestations.

Dr. W. H. Roberts, Pasadena: We are face to face with a real condition and I think as physicians we might call it a diseased condition, and that is this: The untrained physician has no business to refract. The untrained physician has no business to do eye work. I have seen some refracting just as poor, if not poorer, coming out of the offices of untrained physicians, as out of the offices of the optometrists. I am unalterably opposed to their doing this work. But if the medical profession are going to take this work out of the hands of the optometrists and put it into their own hands, where it rightfully belongs, they must raise their own standards. I am heartily in accord, therefore, with this resolution that a graduate degree should be required of all men doing eye work and that nobody in the profession should be permitted to do optical work of any description without having the degree called for in this resolution. If we are going to change this state of affairs we have got to begin with the profession. I do not believe the attempt to alter public opinion or the opinion of legislators is going to help matters. The disease is in the profession itself and if we are going to change this we have got to cure the disease.

Dr. F. Park Lewis, Buffalo: We might just as well face things as they are. We are never going to get rid of optometry, existing as it does, by simply opposing it. I think if we were to get together the record of the bad work of the untrained doctors it would at least very nearly equal that coming from the optometrists. I believe Dr. Jackson has struck the root of the matter. The legislators assume that we have personal reasons for our opposition, and until we can raise our own standards—limit the practice of ophthalmology to those who are trained in ophthalmology—by the adoption of a degree or some estimate by which there can be assurance that ophthalmologists are qualified, we are going to have optometrists and they are going to be recognized by the states. I do not believe there is any other way but by establishing a differential degree that will give us control of the most important part of ophthalmology—refraction.

Dr. J. A. Donovan, Butte, Mont.: I have had several letters during the last year asking why our governor endorsed the optometry law in Montana. The state of Montana has a law granting the title, doctor of optometry. It has already been mentioned that the bill was not a compromise, but a trade. The physicians who introduced the bill simply made a trade with the friends of the optometrists that if they would support the amendment to the medical practice act the physicians would support the other bill. We had already been pledged in the legislature to support this bill and we were practically bound to do so. There is one thing about the resolution as it stands. We are already kicking about too many medical schools, and I believe the resolution should be a little more specific on what the qualifications should be. I would be in favor of sending it back to the committee to make the recommendations more specific and more explicit as to qualifications and as to schools. As it stands I am inclined to think there would be a number of schools springing up and that we may not be accomplishing much. With that single exception I am heartily in favor of this resolution.

Dr. Melville Black, Denver: I want most heartily to second this resolution of Dr. Jackson. I think as far as the objections raised by the last speaker are concerned there will be no trouble. In the first place, any school which is qualified to confer a medical degree would be qualified to take up this postgraduate work. New schools could not spring up at the present time for the reason that it is becoming more and more difficult to obtain qualifications to confer the medical degree. The degree of Doctor of Ophthalmology, we hope, will be conferred in Colorado within the next year by the University of Colorado. We hope to have this course in full operation during the coming summer, so that we will be able to give you more detailed information with regard to it a little later on, but it seems to me the only intelligent way to meet this situation. They are putting it right straight up to us and we must meet it. Otherwise we are not capable of showing wherein the medical man is better able to do these things than the optician.

Dr. M. W. Ward, Woodland, Cal.: The state of California is one of the oldest states that has worn the yoke of optometry, and more than that, an ophthalmologist sat in our governor's chair and signed that bill. Dr. Pardee, one of our members, sat in the governor's chair and signed the bill that makes this kind of legislation in California the oldest in the United States. That shows about how much interest the ophthalmologists in the state of California have in this question. A few years after that the American Medical Association took this up and had committees appointed in the different states to have something done to arouse the ophthalmologists along this line. I received a communication that Dr. Ellis and myself were appointed on the committee in this state. We chose Dr. Ferguson as the representative in the legislature to do this work. He was not an ophthalmologist, but he was an effective man before the legislature. But nothing was done. This law was passed and we have been living under it about six years. The optometrists call themselves doctors and the laity call them doctors. They are crowded out after an education of about four weeks, while we have to take four to seven years, but we are all before the public in the same light. As I say, California has worn this yoke as long as any state in the Union for the simple reason that we will not do anything and we look to the other states to arouse a sentiment on this subject and see that ophthalmology means something beside fitting eyes with glasses.

Dr. H. S. Miles, Bridgeport, Conn.: We were greatly aided in our state by Dr. Bossidy of the committee on optometry and if there are states that have not laws I would advise the assistance of Dr. Bossidy. A great many ophthalmologists sell glasses. This should not be. It is no part of the physician's work. I think if we do it we lose somewhat the respect of the patient, the optician and ourselves.

Dr. Hiram Woods, Baltimore: Dr. Black says that it will not be long before they will be ready in Colorado to confer the degree of Doctor of Ophthalmology. That is exactly the degree a number of these quacks are disporting themselves with in the East, and they buy a diploma from various schools for $25 after a six weeks' course. Doctor of Ophthalmology is the term they use; I have seen it in print. I opposed one of them in the legislature last year. We had a close call in Maryland a year ago. A doctor from Baltimore, a professor of obstetrics, was approached by the opticians and convinced that this thing was an advance in education. He introduced the bill and the night after its introduction he walked into the University Club, where four or five oculists were discussing it. They convinced him of the iniquity of it and the following morning he presented the amusing spectacle of opposing his own bill and of trying during the rest of the session to defeat it. Then the opticians sent out cards all over the state asking physicians whether they endorsed this bill to set up a standard of education for opticians. They got from 500 to 600 replies from physicians saying they did endorse it. A lot of these, of course, found they were in the wrong, and others asked what they should do about it, and it brought out some opposition. During the hearings when we were trying to convince the committee of the legislature that spectacle fitting was a part of medicine, one question was asked by a committeeman of an optician: "Do you know how to fit glasses?" The optician said, "We are the specialists to whom these things can be referred by the general practitioner." On this statement it was reported favorably and it passed the house because it had medical endorsement. It passed the senate because certain politicians traded it for something else, and afterward it was vetoed, largely through the personal influence and work of Dr. William H. Welch, who took the matter up and persuaded the governor of its wrongfulness. In Maryland the State Medical Society has taken it up, and if there is any future fight on the subject it will be done through the medical organizations.

This brings up one question: If there could be written by such men as Edward Jackson, Dr. Thompson and others a clear and concise, brief paper which would appeal to the laity, to the average legislator, presenting in a way that a layman could understand the fact that ophthalmology is a part of medicine, and that spectacle fitting is a part of ophthalmology, with reference to the general health, it would go a long way toward helping the situation. The average legislator is too busy to read large reports. About four pages issued by a special committee of this Section that would appeal to the comprehension of a layman would go a long ways. They do not want to encourage quackery. They simply do not know. We are wanting in the kind of literature that will appeal to the men we are dealing with. That was the difficulty we were laboring under in Maryland last year. I do not know where such literature exists, but I do believe it would be an enormous help to us in our future fights.

DR. S. L. LEDBETTER, Birmingham: Alabama passed a bill providing for an optometry board but the governor sat down on it. He said optometry, as he conceived it, was a mere matter of fitting glasses and was not a profession. Now, the way we propose to get at that in Alabama, to prevent the further spread of this infection, is to limit and describe the things that belong to medicine and then enact laws regulating the practice of medicine, so that anything that impinges on these lines will be an infringement of the practice of medicine. Anything that would take up the study of anatomy and physiology, as the optometrists propose to do, would be an infringement on the study of medicine, and by making a medical law which would include these subjects it would prevent them from putting these features into their bills. As I conceive it the only way we can shut them off is to include in medicine the things the optometrists want to take up.

DR. J. H. MCLEOD, Santa Rosa, Cal.: I cannot see how we are going to be benefited by extending an evil that already exists by passing it on and putting it into the hands of every general practitioner. According to the view of the member who introduced the resolution you are going to empower every man who practices medicine by a diploma to go forth and do the very thing the optometrists are doing. I believe if the same energy were expended in educating the general practitioner to send patients to the proper source, and if the general public were educated to go to the proper source, you would do more good. It means an extension of the present evil. The general practitioner has no time to practice ophthalmology and will not study the subject. With a little information he will attempt to do a great deal. Educated people are not going to the optometrists as they formerly did, and they can be educated to go to the oculist instead of to the optician.

DR. EDWARD JACKSON, Denver: I should like to ask the last speaker what privilege he or I, or anybody else in this Section, has that is not in the hands of every practitioner of medicine as to practice before the law or before the people. The idea here is to create a distinct class, and if all do not belong to that distinct class of ophthalmologists, distinguished by a special education, at least enough will belong to that class to bring it home to the general practitioner of medicine that it is to this class that his patients should be referred. I can conceive of no better educational work in the general profession than this of establishing a special course. Bear in mind with reference to this special course that is proposed that it is based on the complete medical course. It is a postgraduate course, including not less than one year—not six weeks or three months or six months—in some postgraduate school. It contemplates coming before university examiners and passing a special examination; university examiners who examine for the other postgraduate degrees in the university, sustaining a very definite standard. For instance, in the University of Colorado we propose to grant the degree of Doctor of Ophthalmology, to make it a genuine university degree, and when this has been done it will not be taken up by any man who chooses to have that distinction.

I want to commend the clause in my paper in the direction of Dr. Ledbetter's suggestion. When it was announced in the papers that the compromise optometry bill had been introduced into the Colorado legislature some of the men here very quickly had letters from Dr. Thorington, Dr. Bossidy and others in the East asking about this compromise bill, and we replied to them and gave them our view of it. It was taken up by the optical journals all over the country. The opticians in Colorado had formed a national optical society and from that body a committee was appointed to stop that bill. They did stop the bill. It was introduced as their bill at their request by the health officer of Denver. This is why they stopped it:

> "Nothing in this act shall be construed to apply to persons licensed to practice medicine in this state, or to give any person the right to attach the title M.D., surgeon, doctor, physician oculist, ophthalmologist, eye-specialist, doctor of refraction, doctor of ophthalmology, doctor of optometry, or any word or abbreviation to his name indicating that he is engaged in the treatment or diagnosis of diseases of, defects, or injuries of the human eye, or to use drugs or medicine in any form for the treatment or examination of the human eye, or to use any therapeutic measures or agencies other than glasses for the treatment of the human eye."

That is what stopped that bill. The optometrists pulled i off very quickly, and if such a clause was introduced into every bill, or such an amendment was insisted on by every ophthalmologist to be put into every bill or into existing optometry bills, a clause which is perfectly legitimate, entirely in the interests of honesty, not against the opticians or the optometrists, but in the interests of simple honesty, making it apply to those to whom it should apply, then not an optometry bill in the country would do a bit of harm.

With reference to the resolutions, they are not as full as they might be made, and yet they should be brief. The year's work is to be done in an accredited ophthalmic hospital before a man can come up for this examination or before he can get any credit for special instruction in ophthalmology. And as to the final resolution, "Resolved, that the Council on Medical Education is hereby requested to consider the curriculum for such a course"— this is the psychological moment to consider this. The president of the American Medical Association recommended a fifth year; as he put it, an internship in a hospital for one year. The Council on Medical Education in their report to the House of Delegates recommended that the fifth year be added on after the completion of the present course, whether the degree should be given at the end of the four years or whether it should be deferred until the end of the fifth year being a matter to be determined. This very disposition on the part of medical educators to raise the standard should be taken advantage of and here is a way for us to raise the standard of things with reference to ophthalmology, and that is the thing we have in mind to do.

SEROUS LABYRINTHITIS

REASONS FOR RECOGNITION: DIFFERENTIAL DIAGNOSIS: CONTRA-INDICATIONS AGAINST LABYRINTH OPERATION: PROGNOSIS *

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REASONS FOR RECOGNITION

Serous labyrinthitis should be recognized as one of the inflammatory diseases of the labyrinth, which it is, rather than a stage of diffuse suppurative labyrinthitis, which it is not. It is true that serous labyrinthitis is etiologically dependent on a neighboring inflammatory process and may, from this point of view, be regarded much as is a collateral edema or effusion into a joint or visceral cavity. Serous labyrinthitis should be given a place of first importance because of its close resemblance to diffuse suppurative labyrinthitis, which is destructive and very dangerous, while the serous form is not. Serous labyrinthitis subsides without damage; the suppurative does not. The suppurative may make the labyrinth operation necessary; the serous does not. In true serous labyrinthitis the fluid is sterile. That it can become infected, no one denies, but this is after the suppurative middle-ear process has progressed to the point of communication with the membranous labyrinth. When we think of the almost simultaneous involvement of the middle ear and the labyrinth in panotitis, it is difficult to conceive of serous labyrinthitis having been one stage of the infection.

That hyperemia and serous labyrinthitis are not stages of the suppurative is apparent because the succession may not follow. The serous appears without the hyperemic; the suppurative without the serous. An active hyperemia is regarded as a defensive process, not a destructive one. While it is true that these phenomena do sometimes follow in the order named, it is *not true* that they must. That is, it is not true that we must have an active hyperemia or increase of the amount of arterial blood brought to the part in a given time, preceding serous labyrinthitis, and the latter in turn preceding suppurative labyrinthitis.

We have but to read Hunter's experiments in regard to the temperature of inflamed parts, the opposition to his conclusions by Semon and Weber; *Zimmerman's* theory, and finally, Jacobson's most thorough and scientific investigation, to come to the conclusion that such a view is not correct.

Bezold's experiments with the manometer on fresh temporal bones demonstrate that prolonged intralabyrinthine pressure is impossible in the healthy labyrinth, because the pressure causes escape of fluid through the cochlear and vestibular aqueducts.

Serous effusion presupposes, first, some hindrance to the normal exit of blood carried to the labyrinth; second, an edema of the membranous labyrinth; third, effusion because there is no obstruction to the incoming arterial blood except the capillary engorgement; fourth, obstruction to the outflow of labyrinthine fluid. The walls of the capillaries are not strong enough to resist the normal arterial tension with *obstruction* in front, and in consequence they leak. If the edema extends to the aqueducts, this swelling, together with the accumulation of fibrin, which Herzog says causes the labyrinth to become a closed cavity, prevents the outflow of the fluid.

In hyperemia there is an excess of both arterial and venous blood, while in effusions there is an excess of venous or capillary blood, because of obstruction to the return flow. A real anemia of the part may occur in serous labyrinthitis because of the increased pressure caused by the effusion. Herzog thinks that it is the increased intralabyrinthine pressure which interferes with the function of the organs of Corti and equilibrium.

Hyperemia is a transient irritant to the static labyrinth. This is observed in the periodic attacks in circumscribed labyrinthitis. In certain cases there are attacks of vertigo, nausea and vomiting, and nystagmus to the diseased side, accompanied by tinnitus, without increase of deafness; in other cases vertigo without nausea and vomiting, or vertigo and nausea without vomiting; nystagmus to diseased side, and more deafness with or without tinnitus. These attacks are, to my mind, caused by simple hyperemia. The best evidence is their briefness and the total recovery of the former status.

DIFFERENTIAL DIAGNOSIS

The affections of the labyrinth which are most apt to cause confusion and false diagnosis are diffuse hyperemic, serous and suppurative labyrinthitis and diffuse hemorrhage into the labyrinth.

The symptoms which are common to them all are vertigo, nausea and vomiting, nystagmus, disturbances of equilibrium and deafness. In the first two deafness is partial; in the latter two it is complete. In the first three there is always an otitis media and they are usually unilateral. In the last otitis media may or may not be present. When present, it is only coincidental. The hemorrhage is usually bilateral. It will readily be seen that to find that a patient suffering from acute or chronic suppurative otitis media is deaf to conversational speech, to the watch on contact and to a few forks; has nystagmus, vertigo, nausea and vomiting, and disturbance of equilibrium, is not enough to warrant the diagnosis of a labyrinthitis requiring operation. In addition to the above-named diseases, these symptoms are present with slight modifications, in perilabyrinthitis, multiple circumscribed hemorrhages of the labyrinth, labyrinthine anemia, meningitis of the posterior fossa, cerebellar abscess and acoustic tumor; present but transient in circumscribed labyrinthitis. It will serve no purpose to go deeper into the consideration of the last group of diseases. They are mentioned only to call attention to them. Their differential symptoms are sufficiently marked to set them apart.

To differentiate clearly between hyperemic, serous and suppurative labyrinthitis and diffuse hemorrhage into the labyrinth, the following must be carefully considered: history, mode of onset of attack, initial or early symptoms of attack, direction plane and intensity of nystagmus, responsiveness of vestibular apparatus to caloric, turning and galvanic tests, reactionary body movements, direction of seeming motion of surrounding objects, influence of the position of the body on the severity of the symptoms, presence or absence of subjective noises and the course of the disease.

To facilitate this study I have prepared the accompanying table.

The condition which must be accepted as serous labyrinthitis occurs most frequently as a complication of acute suppurative otitis media, and acute exacerbations of chronic suppurative otitis media, especially, in the latter, of relatively short standing. *In old* cases of chronic suppurative otitis media the pneumatic cellular bone frequently surrounding the capsule of the labyrinth is gradually changed into sclerotic bone, which forms a barrier to the extension of acute exacerbations into this area, and, of course, renders serous labyrinthitis much less probable, but not at all impossible. It must be remembered that the lateral wall of the labyrinth capsule is much less cellular than that portion communicating with the mastoid process, and that some part of it is by far the most frequently attacked portion in chronic middle-ear suppuration.

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Shambaugh has demonstrated that communication exists between the blood-vessels of the bony and membranous labyrinth. So long as the cellular construction surrounding the bony capsule is unchanged, these vessels are more liable to be attacked or influenced by an inflammatory process within the cells, which in turn gives rise to either hyperemic or serous labyrinthitis.

Diffuse hemorrhage and diffuse suppurative labyrinthitis destroy both the static and acoustic labyrinth completely and quickly. Minute multiple hemorrhages, serous and hyperemic labyrinthitis only partly, or temporarily, impair the labyrinth. Anemia of the labyrinth changes its tonus for a more or less short period, unless due to permanent extralabyrinthine lesion or new growth, which lessens the blood-supply.

When, on the other hand, there exists chronic suppurative otitis media, with a history of attacks of vertigo coming on while arising from bed, leaning forward, lifting, straining, etc., or without external cause, and lasting from a few minutes to some hours, and the above group of symptoms suddenly develop, we can safely say that the patient has had a circumscribed labyrinthitis which has become diffuse suppurative. Here the history of attacks of vertigo, and perhaps, in addition, the fistula symptom, constitute the differential points. This disease is almost always unilateral.

When, in the course of acute suppurative otitis media or acute exacerbation of the chronic, all of the above group of symptoms, except total deafness, present themselves, the patient has serous or hyperemic labyrinthitis. Differentiation is desirable, though the main point is to determine or exclude the presence of diffuse suppurative labyrinthitis or diffuse hemorrhage into the labyrinth, from both the surgical and prognostic standpoints.

This paper is essentially a plea for accurate clinical diagnosis and prognosis as they govern the surgical question, which is grave. We may check or repair the ravages of disease, but who will correct our errors?

In determining total deafness, it is best to use the whole series of forks and to exclude the good ear by Barany's noise apparatus or some modification of it. If any hearing exists, the Rinné is positive, and Schwabach shortened in both serous and hyperemic labyrinthitis. The Weber, while a somewhat doubtful sign, is to the diseased side in the latter, as pointed out by Neumann, if the hyperemia is due to perilabyrinthitis.

An analysis of the table herewith presented shows graphically both the likeness and the unlikeness of the four diseases, the initial symptoms of which are the same except in degree. It shows, *further*, the necessity of close observation of the nystagmus, and points out the great information the tuning-forks furnish us, both at the onset of the disease and during its course. If we are unable to determine by the rapidity of onset or direction of the nystagmus whether we have to deal with diffuse suppurative or serous labyrinthitis, the small a′ fork or some other will determine the question by showing in the hyperemic and serous that some hearing remains. Hyperemic and serous labyrinthitis are easily mis-

TABLE OF DIFFERENTIATING CHARACTERISTICS OF HYPEREMIC, SEROUS AND DIFFUSE SUPPURATIVE LABYRINTHITIS, AND DIFFUSE HEMORRHAGE INTO THE LABYRINTH

	Hyperemic Labyrinthitis.	Serous Labyrinthitis.	Diffuse Suppurative Labyrinthitis	Diffuse Hemorrhage into the Labyrinth
History	Acute suppurative and subacute exacerbations of chronic suppurative otitis media; circumscribed labyrinthitis. Drugs. Systemic diseases.	Acute or chronic suppurative otitis media. Perilabyrinthitis. Intracranial diseases.	Chronic suppurative otitis media. Acute exacerbations of circumscribed labyrinthitis. Panotitis. Diabetes mellitus.	Violent exercise. Excessive heat. Trauma. Caisson workers. Systemic diseases.
Rapidity of onset.............	Rapid	Rapid	Rapid	Instantaneous.
Severity of initial symptoms: vertigo, nausea, vomiting, disturbances of equilibrium.	Moderate	Severe	Intense	Intense.
Early nystagmus...............	Moderate; to both sides, strongest to diseased side.	Strong to sound side........	Strong, to sound side..........	When unilateral, to sound side; strong. Bilateral disease. To both sides, strong.
Late nystagmus................	Subsiding; to both sides; strongest to diseased side.	Subsiding; to sound side or to both sides; strongest to sound side.	Subsiding; to sound side........	Unilateral disease, to sound side. Weak. Bilateral disease, subsides earlier. To both sides weak.
Reactionary body movements....	Slight; staggering toward sound side.	Severe; falls to diseased side.	Intense. Falls to diseased side..	Intense. Unilateral disease, falls to diseased side. Bilateral disease, eyes to left, falls to right; eyes to right, falls to left.
Direction of seeming movement of surrounding objects.	Both right and left...........	Right or left..............	Right or left..................	Unilateral disease, right or left. Bilateral disease may change direction with eyes to right or left.
Influence of position of the body on severity of symptoms.	Increased in recumbent........	Decreased when lying on the sound side. Increased when lying on the diseased side.	Decreased when lying on the sound side. Increased when lying on the diseased side.	Unilateral disease, decreased when lying on sound side; increased on the other. Bilateral disease, no influence.
Vestibular reaction............	Increased	Early; negative. Later responds to caloric test.	Negative	Negative.
Early status of hearing.........	Much diminished...............	Greatly diminished.........	Negative	Negative.
Late status of hearing.........	Almost spontaneous improvement.	Gradual improvement........	Negative	Negative.
Subjective noises..............	Present	Absent only when improving.	None	None.

taken one for the other, as are serous and suppurative, and in less degree of probability the diffuse hemorrhagic. The likeness between the serous and suppurative is just the point for the greatest need of a word of caution. It will be seen that the symptoms up to the consideration of early status of hearing differ only in degree in the first few days. As the disease progresses (and it must be allowed to progress in case of doubt), the differences are greater. The serous grows better in many respects, showing return of function, while at best the suppurative grows better only in the sense of subsidence of symptoms. It may become markedly worse within four days, signs of cerebral irritation appearing. These settle the question of doubt.

CONTRA-INDICATIONS

Serous and hyperemic labyrinthitis and diffuse hemorrhage into the labyrinth positively contra-indicate the labyrinth operation, as there is nothing to be gained, and an otherwise sterile cavity is exposed to infection, and the life of the patient is needlessly endangered through extension of the infection to the cranial cavity.

On the other hand, diffuse suppurative labyrinthitis is more dangerous to the life of the patient without operation, especially if caused by a capsule coccus, than when ably handled surgically, because of the free communication of the labyrinth with the cranial cavity through the aqueductus cochleæ, the aqueductus vestibuli and the porus acusticus internus, etc. The saccus endolymphaticus, which is the terminal enlargement of the aqueductus cochleæ, lies between two layers of the dura on the posterior wall of the pyramid, and communicates directly with the lymphatic system of the dura. These facts cause meningitis of the posterior fossa and cerebellar abscess to be much feared. The statistics of Politzer's clinic from 1904 to the fall of 1907 show that it is better not to operate than to partly drain the labyrinth. All of the canals and the cochlea should be opened. For this purpose there is no better operation than Neumann's. The only modification I would suggest is the use of a hemispherical bur to open the three canals at the same time just behind the prominence. This, by the way, is the only excuse I can find for the use of this instrument in the mastoid region.

It is my belief that hyperemic and serous labyrinthitis occur oftener than is generally believed, and that they are operated on when they should not be, thus giving rise to the often-heard statement that it is better not to interfere. This is certainly true when they have been mistaken for suppurative labyrinthitis, and I repeat that the utmost precaution must be practiced; but when a positive diagnosis, according to my table, has been made of diffuse suppurative labyrinthitis, and especially when symptoms of cerebral irritation develop, I cannot lend my sanction to this view. Be timid when there is doubt. Be bold when there is none. It sometimes requires as much courage to wait when one is almost convinced as to operate. Too much haste will bring this work and the worker into disrepute. Operation in case of diffuse hemorrhage is totally out of the question.

SUMMARY

The differential diagnosis must be made under circumstances which can cause more than one of the four diseases under consideration; therefore, little has been said of systemic conditions as causative factors.

I have shown that hyperemic and serous labyrinthitis should be recognized as independent diseases, and not stages of diffuse suppurative labyrinthitis, first, because the succession does not of necessity follow; second, because neither need be preceded by another; third, that the hyperemic and serous tend to recovery without interference, while diffuse suppurative labyrinthitis and diffuse hemorrhage into the labyrinth are destructive. As prognosis is so important because it governs the surgical question, differential diagnosis is doubly essential.

Nystagmus, vertigo, nausea, vomiting, disturbances of equilibrium and deafness are common to them all, and are their initial symptoms.

Diffuse hemorrhage into the labyrinth and diffuse suppurative labyrinthitis destroy the labyrinth. The others do not. The suppurative may invade the cranial cavity; the others do not. Hyperemic and serous labyrinthitis usually recover completely; the others do not.

Hemorrhage into the labyrinth is most frequently bilateral; the others are not. Unilateral hemorrhage, suppurative and serous labyrinthitis closely resemble each other up to the hearing tests, except in degree. Hyperemic labyrinthitis does not; close observation shows nearly the whole course to be different. The nystagmus of bilateral diffuse hemorrhage resembles that of early hyperemic labyrinthitis, except in degree; in the others it does not.

Suppurative labyrinthitis must often be operated on. The others must not. In doubtful cases the surgeon should wait. In sure cases of diffuse suppurative labyrinthitis, especially with intense initial symptoms and meningeal or other brain symptoms, he should not.

For a working differential diagnosis the reader is referred to the table.

PROGNOSIS

The prognosis of hyperemic and serous labyrinthitis as indicated above is good. Serous labyrinthitis leaves a permanent lesion only when there is a fibrinous exudate which becomes organized. In diffuse hemorrhage into the labyrinth and diffuse suppurative labyrinthitis it is absolutely bad with relation to hearing. The latter disease is bad from all points of view, and should be regarded much as are bad cases of appendicitis.

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ABSTRACT OF DISCUSSION

Dr. Hugh Frey, Vienna, Austria: I want to ask Dr. Fletcher how the cases are here stated. One may make up one's mind that cases showing such and such symptoms are cases of hyperemic labyrinthitis, but one cannot prove that those symptoms are pathognomonic of that condition. For instance, I think that the symptoms Dr. Fletcher has in his first column might answer just as well for the cases of edema of the labyrinth, which is really not labyrinthitis, and which is comparatively often present in acute or chronic suppuration. In this list I miss any mention of the temperature. The temperature is most important in diagnosis, and in many cases will enable us to make the diagnosis between the conditions mentioned in the second and third columns. In serous labyrinthitis we may not find any clinical difference from acute suppurative labyrinthitis, except the general symptoms. The functional tests depend on the mechanical changes in the labyrinth, and we are enabled to determine whether a case is serous or suppurative only after the general symptoms develop, among which the temperature is the most important.

Another interesting point is the increased vestibular reaction in the first column. It is a question whether we are able to state in a single case that the vestibular reaction is increased or not. At first we thought it was not possible at all. Now we know we can in some cases tell whether the vestibular or cochlear reaction is increased. The bilateral cochlear test will give results only in cases in which the mediums by which the higher or lower temperature is conducted to the labyrinth are about identical on the two sides. In acute labyrinthitis that is not the case. Another point is that the hearing is supposed to be greatly diminished in serous labyrinthitis.

Dr. A. H. Andrews, Chicago: After having done considerable work along this line, it seems to me that one of these conditions merges into another, and we will have great trouble in differentiating clearly one from the other. Indeed, I do not know of its ever having been demonstrated pathologically that there is a separate and distinct hyperemic and a serous labyrinthitis. We only assume that such conditions must exist to explain the symptoms we find. Regarding the temperature I have had some cases of positively demonstrated purulent labyrinthitis without a rise of temperature. I am not ready to accept the statements regarding the importance of differentiating between a suppurative labyrinthitis and the other varieties for the reasons mentioned, that the suppurative cases should always be operated on, but the others never. I agree with the former, but not the latter.

Dr. C. F. Welty, San Francisco: The important question is not the hyperemia, but it is the differentiation between simple labyrinthitis and acute purulent labyrinthitis. The serous labyrinthitis may go on to a suppurative labyrinthitis. Now, if you follow the Vienna school, you will not have so much difficulty in arriving at a proper interpretation of your case. This confuses the issue somewhat. Dr. Fletcher has made a beautiful picture. Such a table makes one feel that one could scarcely make a mistake. But in one instance, you will operate simply because you have fever in a serous labyrinthitis that has deepened, and in another you will not. The cochlear reaction and the hearing are also important. The putting in of Ménière's disease simply obscures the matter, and the hyperemic labyrinthitis also clouds the issue somewhat.

Dr. Wells P. Eagleton, Newark, N. J.: I think often we operate without sufficient examination. Dr. Fletcher has made an effort to induce us to be more careful in the preliminary examination. The point Dr. Fletcher brings out, as to the loss of hearing, is of the greatest importance. I have seen, in consultation with other pathologists, that the diagnosis may be very difficult. It is important to remember that in suppurative labyrinthitis the patients are totally deaf. If there is the slightest hearing, the case is not one of suppurative labyrinthitis, unless it is a localized form. It is possible to have a little hearing with serous labyrinthitis, but not in general suppurative labyrinthitis.

Dr. H. B. Graham, San Francisco: I think the serous and the suppurative cases merge into each other. How do you know there is not serum there? Or, if you have a serous labyrinthitis, how do you know there is no pus there? We know sections have been taken in serous cases and pus has been found. We cannot say with certainty that a case is serous or that it is purulent.

Dr. J. R. Fletcher, Chicago: My paper is a plea for clinical diagnosis. It has been suggested that we may leave out hyperemic labyrinthitis and diffuse hemorrhage into the labyrinth. That is true, but if you notice the difference between the initial symptoms, it is easy to mistake one for the other. As to whether we can come to any practical conclusions, I know that we cannot at the present time. I made dogmatic statements here to call attention to the importance of differentiating between serous and purulent labyrinthitis. I have seen a labyrinth operated on when it was perfectly well, in more than one instance, and that is sufficient to induce us to ask for greater care in the differential diagnosis in these cases. We are teaching our students to operate without this knowledge. Where are they to get it, without a knowledge of serous and hyperemic labyrinthitis? All through the history of medicine we have made clinical diagnoses of presumed conditions before their pathology was worked out. Here are two conditions very much alike—hyperemic and serous labyrinthitis. That there are differences between the cases that go on to recovery, as far as symptoms go, there is no doubt. I have examined a great many cases myself, and in the serous labyrinthitis, which almost completely puts the labyrinth out of working condition, we find some hearing left, on careful examination.

TUBERCULOUS CYCLITIS FOLLOWING NON-PERFORATING INJURY TO THE EYE*

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AND
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CLINICAL OBSERVATIONS BY DR. DODD

The following case presented some very interesting features. Two of the most unusual conditions were the rupture of the retina, which was present in the region of the ora serrata as the result of a contusion, and an anterior tuberculous uveitis manifesting itself several months after the injury, with negative results from the diagnostic use of tuberculin.

History.—The patient, T. L., aged 10 years, was first seen by me in March, 1908, and the following history obtained: The family had noticed a spot on the left cornea for about eight weeks, and although the eye at times was inflamed and at other times free from irritation, this spot remained. The child had been struck over the left eye with a baseball about ten months before; the lids became discolored and the eye-ball inflamed. A few months prior to that he had been struck near the eye with a stone, the injury producing severe epistaxis and great swelling and discoloration of the eyelids. He gave an indefinite history of not having seen so well with that eye as with the right, but could not say whether this reduction of sight followed either one of the injuries or not. His general health was good and no recent illness was reported, although his mother said that at about the time the eye trouble began he complained of headache and was drowsy and slept a great deal, even falling asleep when he came home from school at noon. As he complained of no other symptoms of illness, however, little attention was paid to this. He had had the usual diseases of children, also a suppuration of the ears when about two years old.

Family History.—No history was given of any trouble which could be considered tuberculous or syphilitic in any member of the family. The mother had delicate health as the result of a fall which injured her spine, when she was a small child. The patient had one brother older and two sisters younger than himself, and there was a stillbirth occurring about eighteen months previous to his birth.

Examination.—The patient's right eye was perfectly normal, with vision equaling 5/6, but he had not been able to use it in school for some time on account of the sensitiveness of the left eye. With the left eye, he could count fingers at 18 inches. There was some ciliary congestion, which was more marked at the lower part of the eye-ball, and a great deal of photophobia and lacrimation. The cornea had a triangular opacity involving its lower third and extending up to and covering part of the pupil. This was quite dense and the epithelium over this part was stippled as in interstitial keratitis. There were some small opaque spots in the cornea above this, and the pupil was small and did not dilate readily with atropin. The tension was normal, but no view could be had of the fundus on account of the corneal opacity. Atropin and dionin were used in the eye, mercuric inunctions applied, and iodids given internally. Under this treatment the irritation and inflammation of the eye subsided somewhat, and the pupil finally became fully dilated so that examination of the fundus was possible. At the extreme lower part was a whitish mass apparently extending forward to the ciliary body and ending near the meridian of the eye. This was glistening white, nonvascular, and was in front of the retina, no detachment of which could be seen. By the use of the transilluminator I found that light passed through it readily.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Course of Disease.—Judging that the corneal trouble, as well as the condition involving the ciliary body, was tuberculous in origin, I used the ophthalmo-tuberculin test in the right eye, but got no reaction. By the latter part of May the eye was slightly improved, the cornea being less opaque and the sensitiveness to light about gone, but on discontinuing the use of atropin the eye would become irritated.

June 22: The patient went to the hospital for a thorough tuberculin test and, after having his temperature taken for several days, I gave him progressive doses of old tuberculin up to the final dose of 10 mg. His temperature remained normal and at no time was there any reaction, local or general.

July 30: By this time, the eye was much improved; there was less photophobia and the cornea was much clearer.

August 13. The patient came to see me before going away for a vacation. I found the eye quiet with only a slight opacity of the cornea. There was no change to be seen in the whitish exudate, the vitreous was clear, and there was no detachment of the retina, or anything to make one suspect a growing tumor.

October 20: The patient returned to-day, having noticed for two weeks that the sight of this eye was failing. The eye was irritated and would become greatly congested on handling, and the lens was becoming opaque at the lower part. The pupil was fairly well dilated, but the whitish mass could hardly be seen on account of the lenticular opacity. This opacity continued to increase quite rapidly so that by November 9 I could not see into the eye. The iris was pushed forward below apparently as the result of a rupture or dislocation of the lens at its lower part. The eye was greatly irritated. The possibility of an intra-ocular tumor occurred to me at this time, and I requested the family to consult another oculist.

November 13: Dr. Suker was consulted and expressed the opinion that a tumor had caused the rupture of the lens capsule and that enucleation should be done at once.

November 17: I enucleated the eye, following which the patient made a good recovery.

Result of Operation.—The irritation of the right eye which had been so marked, especially toward the latter part of the trouble, making it impossible for the patient to use it for reading or school work, subsided as soon as the left eye was removed. I have seen him from time to time since and he continues in good health and his vision is normal in the right eye.

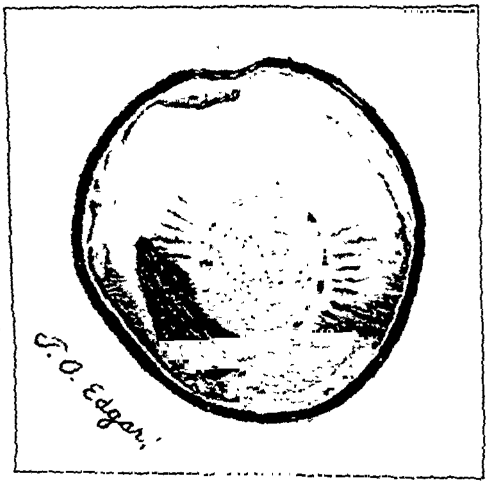

Fig. 1.—Drawing by Dr. T. O. Edgar, of anterior portion of eye, showing mass of exudate.

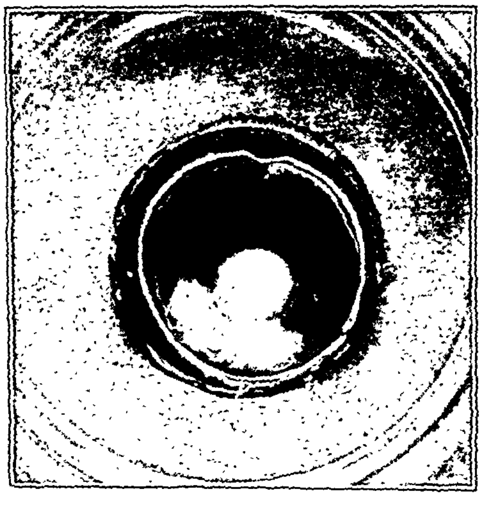

Fig. 2.—Photograph of anterior section of eye.

Dr. Lane has made a thorough examination of the enucleated eye and his report of the pathologic findings forms a part of this paper.

When the patient was first seen by me the clinical appearance of the eye was that of beginning interstitial keratitis. A slight diffuse infiltration in the stroma and some roughness and stippling of the corneal epithelium were present, which prevented the principal pathologic condition of the cornea—the endothelogenous membrane covering the posterior surface below—from being demonstrated clinically.

After the dilatation of the pupil and a partial clearing of the cornea the cyclitic mass became visible, and made me consider the history of traumatism of more significance. Later, when the pathologic examination revealed the rupture of the retina and the exudate at its site, the importance of the traumatism as a cause of the trouble was substantiated.

Rupture of the retina rarely occurs without being associated with rupture of the chorioid. When it occurs alone it may be the result of a chorioidal hemorrhage which detaches the retina and finally breaks through into the vitreous chamber, or it may take place from an indirect blow in the same manner as a chorioidal rupture. When this occurs, the most frequent points are at the macula, or at the ora serrata, as in this case. The earlier exudate or organized hemorrhage, having its source at the site of the retinal rupture, was cicatrized and showed no characteristic tuberculous changes. The later tuberculous exudate was from the ciliary body and iris and was still fresh and in a cellular condition.

The long period of time—nine months or more—between the last injury and the time when the inflammation was first noticed is worthy of consideration. Did the infection occur at the time of injury and remain dormant, or did it occur later and become localized at this point of lessened resistance? Either may have happened, for we frequently see cases of tuberculous inflammation which remain quiescent for several months and then suddenly take on new activity due to the lessened resistance of the patient or some local irritation. In one of my patients who had a severe tuberculous sclero-keratitis, healing took place under treatment with tuberculin and the eyes remained well for over two years. On account of working under poor hygienic conditions her general health became affected, she lost weight, and had a recurrence of the same local inflammation for which I had previously treated her. Stock, by his experiments, proved that large tuberculous foci may exist in the ciliary body for a long period without producing any symptoms of cyclitis, and also that tubercle bacilli may be found in the iris months after apparent healing.

The absence of reaction to the tuberculin test is very difficult to explain, as in every case of ocular tuberculosis, in my experience, the reaction was well-marked both locally and generally. Not considering the negative ocular tuberculin test as sufficient, I had a thorough subcutaneous test made in the hospital where the patient's temperature could be taken frequently and the condition of the eye noted. Old tuberculin was given in progressive doses until 10 mg. were given, the largest amount I ever use for the test. No reaction was obtained. After learning the pathologic condition of the enucleated eye I again gave him a thorough tuberculin test, with the same negative result. To eliminate hereditary syphilis I had a Wassermann test made and it also was negative.

Localization of the trouble in one segment of the eye is no diagnostic help in the differentiation between intraocular tumors and tuberculosis. The whitish mass which was present in this case might have been a non-pigmented sarcoma, although in so young a patient this would have been very unusual. Solitary tubercle of the chorioid, occurring far forward, is usually of far more rapid growth, and would have produced detachment of the retina visible with the ophthalmoscope at an early date. Tuberculous cyclitis is frequently localized in one section of the eye and may remain so for months before other portions of the eye are affected. The negative tuberculin reaction, however, made me discard the diagnosis of tuberculosis in any of its phases, so that when the extension of the process began again, I concluded that it must be some form of ciliary tumor.

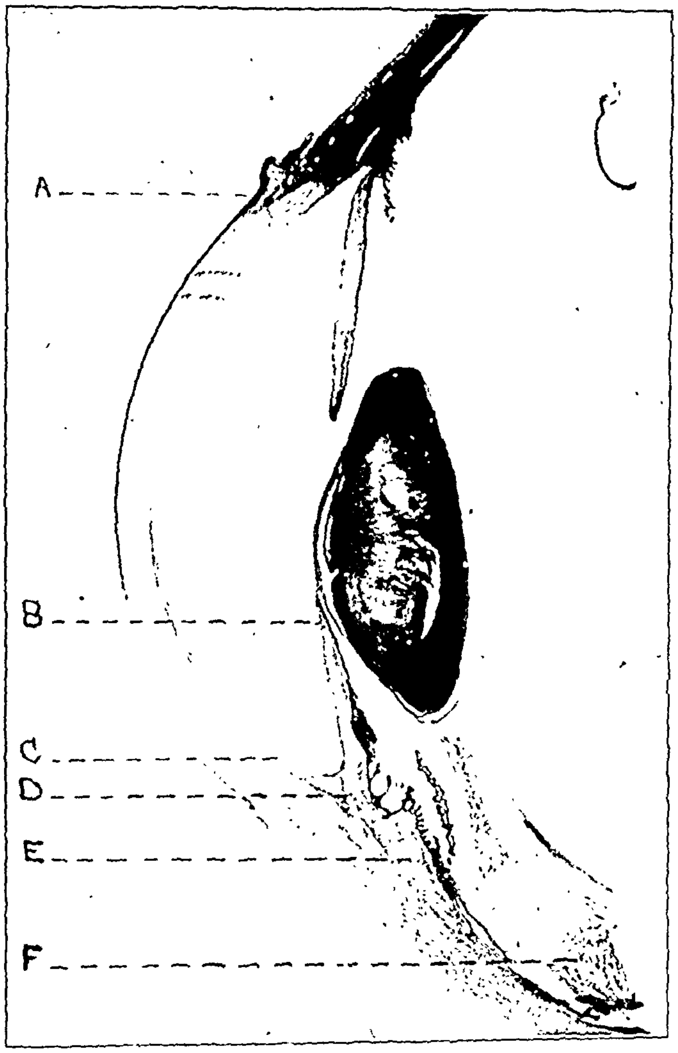

Fig. 3.—Vertical section through the anterior half of the eye, showing the miliary tuberculous iridocyclitis, etc., in the lower portion. (a) Upper limbus region; (b) posterior synechia; (c) endothelogenous cuticular membrane; (d) anterior root synechia; (e) active tuberculous cyclitis; (f) old cicatrized exudate and end of ruptured retina.

PATHOLOGIC REPORT BY DR. LANE

GROSS FINDINGS

Left Eye.—Laboratory No. P. 283. (24x23x23 mm.) There is no evidence of a penetrating wound. The entire cornea is superficially hazy, and deep in the lower quadrant is a triangle of fairly dense uniform opacity. The anterior chamber appears a trifle shallow below. The pupil is horizontally oval and measures 5 mm. in its long axis; a thin gray exudate lies in its lower part, and a 1 to 2 mm. broad spindle-shaped opacity, apparently just behind the lens capsule, runs diagonally from axis 60° to 240° through its center.

When sectioned coronally, the anterior half shows the following: The lens is somewhat opaque and is displaced a trifle downward. On the equator of the lower outer third there lies a dense, glistening white, flat exudate, resting principally on the inner surface of the middle and anterior portions of the corresponding part of the ciliary body. The exudate spreads up along the equator of the lens both temporal and nasalward like two wings, the tips of which reach the level of the horizontal meridian. It rapidly converges posteriorly and continues backward and to the temporal side as a short, 3 mm. thick, round stem; its posterior end is attached to the anterior part of the detached retina 1 to 2 mm. behind the ora. The optic nerve is 8 mm. long. The posterior half of the bulb shows no special changes.

Both halves of the eye were fixed in Zenker's solution, imbedded in celloidin, and sectioned parallel to the plane of the meridian passing through the axis 105°. Four hundred and thirty serial sections were made of the anterior half in order to exclude the possibility of a penetrating wound or the presence of a foreign body, and also with the special object of studying the large exudate and the adjacent structures. Eighty-six sections, every fifth one, were stained with hemalaun and eosin, forty-one with carbol-fuchsin, a few by the van Gieson and Mallory methods, and some stained for iron.

MICROSCOPIC FINDINGS

Unless otherwise stated, the following description has reference to the lower half of the bulb, inasmuch as the most important anatomic changes are found here.

A foreign body is not present. Three distinct, quite superficial, spindle-shaped nodules of round cells are found in front of the perforating vessels in the superficial layers of the sclera (10 to 12, 65 to 70, and 76 to 80)[2] (Scleritis). Files of cells run off from the anterior ciliary vessels and the marginal loops. A few scattered wandering cells are seen, especially between the basement cells of the corneal epithelium, and, moreover, they are increased throughout the interlamellar spaces of the corneal stroma (5).

Near the end of Descemet's membrane the posterior lamellæ are slightly spaced apart and many cells with deeply staining oblong nuclei lie in the narrow fissures (1 and 56 A cellular membrane is found on the posterior su face of the cornea and is worthy of detailed description. begins at the center, spreads downward and gradually increas in thickness until its superimposed layers reach a maximu of from 12 to 15 strata just above the periphery of Desce met's membrane (1). In some sections this deposit is arrange in particularly definite lamellæ (1, 56 and 57 v. G.), whereas other sections (10 and 20) lamellation is less regular; he more cells abound, some have large faint-staining oblong nu lei, others have smaller, deeper staining, curved and irregula shaped nuclei (endothelogenous cuticular deposit). Betwee Descemet's membrane and this new-formed tissue an interrupte layer of compressed endothelial cells is found. This sam arrangement of cells and tissue prevails between the ne lamellæ to a lesser extent (1 and 56).

In Section 20, alternating areas are present where th endothelial cells are irregularly grouped, and absent betwee the new tissue and Descemet's membrane (endothelial degeneration). Between the layers of the deposit a few scattered pigment-bearing cells and free pigment granules can be made out (3) (old precipitates). The cuticular deposit extends a short distance beyond the peripheral margin of Descemet's membrane, overlapping the anterior end of the inner lamellæ of the corneo-scleral trabeculæ (1). Aggregations of leukocytes and plasma cells laden and interspersed with pigment lie in a delicate network of fine fibrin on the posterior surface of the deposit (3) (fresh precipitate).

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[2] Arabic numerals in parentheses refer to the serial sectio number.

In Section 35 these precipitates consist almost exclusively of plasma cells. Many lymphocytes and wandering cells of various types are seen in both the angle of the anterior chamber and its bordering walls (1 and 4). In Section 10 an unusual number of eosinophils are present in this location. The canal of Schlemm is completely hidden (6) (partial impermeability of the infiltration angle). Delicate fibrinous strands, in the meshes of which are leukocytes and plasma cells, stretch across the angle (3 and 4) and pull the thickened iris root forward until it is actually approximated to the cuticular deposit 1/3 mm. above the end of Descemet's membrane (local peripheral anterior synechia). The canal of Schlemm is here completely blocked. The anterior chamber is free from exudate except at the angle; yet a few plasma cells and leukocytes lie on the anterior surface of the iris, and not a single section shows open stomata of the crypts (cellular exudate on iris surface). The iris stroma, particularly its posterior portion, is thickened by a diffuse infiltration of leukocytes, plasma and mast cells and a few scattered hyaline globules (Russel's bodies) (4). The chromatophores have mostly lost their graceful branches and have become transformed into shapeless conglomerations of pigment. Along with this diffuse infiltration are found many large, fairly sharply circumscribed nodular aggregations of lymphocytes. Several of these nodules reach a size equal to the thickness of the iris and can easily be detected macroscopically (32, 61 and 72) (nodular iritis). Epithelioid cells are present in the center of a few of these nodules (33 and 34), but in none of them can giant cells be found. Vessels are seen inside the nodules in a few sections (32 and 60), yet for the most part they lie at the periphery or entirely outside the nodules. Time was not taken to determine the exact number of nodules present, but their distribution, frequency and characteristics, were closely studied. Fifty-one, or two-thirds of a total of 86 sections studied, show that each section passes through from one to four nodules. In all, 94 cross-sections of such nodules can be counted.

From the observations made one can conclude that (1) the greater number of nodules are located in the lower half of the iris; that (2) they are situated principally in the vicinity of the circulus arteriosus minor; and that (3) they are poor in vessels. These three findings agree with those described in typical miliary tubercles of the iris, and indeed the condition coincides with it entirely except for the fact that giant cells could not be found in a single section.

Attached to the lower pupillary border of the iris is a moderately cell-rich inflammatory exudate. It extends upward for a short distance and tapers off in the pupillary region of the anterior lens capsule (pupillary membrane) and below and behind the pupillary border of the iris and binds the tunic to the lens capsule. This latter portion of the exudate contains a few clumps of pigment (3 and 57). It can be traced downward as a thin pellicle along the posterior surface of the pigment epithelium as far as the ciliary zone of the iris (3) where it suddenly becomes one-half the thickness of the iris (5). The succeeding twelve sections show that the exudate extends, indeed, almost to the ciliary body, and that markedly proliferated pigment epithelium separates it from the posterior surface of the iris; also that it drags narrow bands of pigment toward it and that the exudate fuses with some of the displaced ciliary processes (12 and 13) (posterior synechia).

The traction set up by this exudate membrane pulls the pupillary border of the iris backward and downward so that the sphincter is bent on itself in the shape of a hook (3). A thin stratum of connective tissue separates the two somewhat broken-down pigment layers near the outer edge of the pupil (59). The intima of the vessels is often surrounded by small round cells and plasma cells and occasionally a lumen is obliterated (71). The same diffuse cellular infiltration described in the iris prevails in the ciliary body and thickens it proportionately. The ciliary processes are most extensively and very densely infiltrated. Some of them are swollen and elongated (8 and 29), others are pushed forward and grown fast to the posterior surface of the iris (26). Still others stretch upward as far as the equator of the lens and lie on the anterior fibers of the zonula (4). In the vascular layer of both the corona (24 to 29) and the orbiculus (36 to 38) a number of round-cell nodules are present. Just behind the corona the pigment epithelium is split and separated from the ciliary epithelium by cicatrical tissue (11 and 27). The ciliary muscle itself has to a large extent escaped infiltration (56). A few sections, particularly No. 6, show the radial bundles widely spaced apart by the same kind of cells that infiltrate the vascular layer, while in others nodules of round cells with numerous eosinophils are found in the immediate neighborhood (24). A diffuse infiltration is present in the lower quadrant (36). Two typical giant-cell systems with central degeneration lie in the muscle opposite the middle and posterior parts of the corona (36 to 40). The stratum pigmentum is broken through in the same sections.

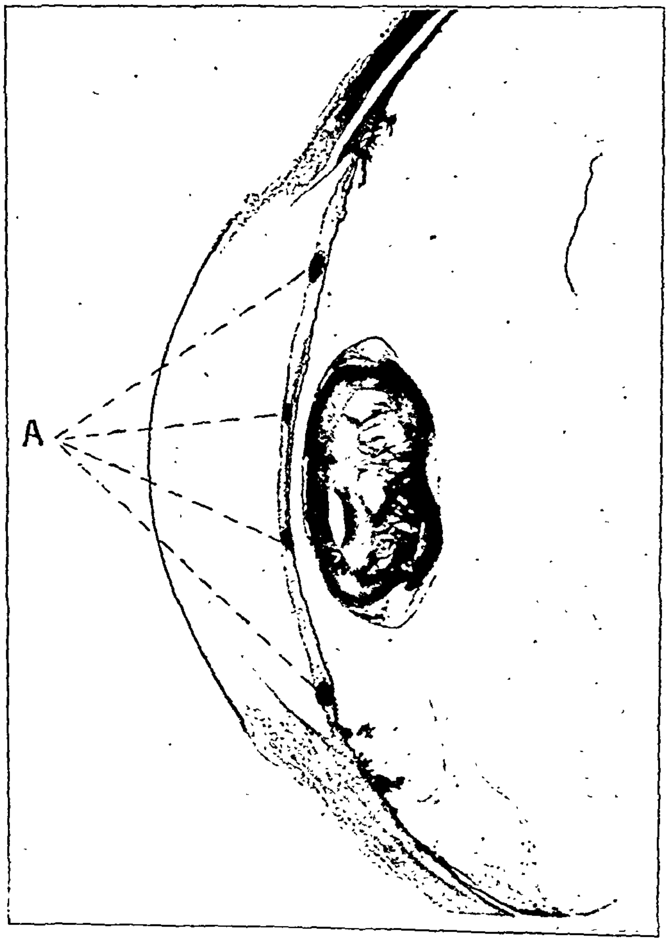

Fig. 4.—Miliary iris tubercles (a).

In all, 41 specimens were stained with carbol-fuchsin and a close search made for tubercle bacilli, but bacilli were found in only one section (40c). Morphologically, the bacilli are a little shorter and possibly a trifle thicker than typical tubercle bacilli. A single bacillus having all the morphologic characteristics of the tubercle bacillus was found in smear made from those sections taken from the giant-cell areas and treated by the alkaline-hypochlorite (*antiformin*) tissue-dissolving method.

A 2 to 3 mm. thick organized exudate lies on the inner surface of the ciliary body and on that (peripheric) portion of the retina which is pulled forward as far as the middle of the orbiculus (2) (cyclitic exudate). It extends upward and imbeds the processes and equatorial zone of the lens, and sends fine filaments up behind the posterior lens capsule, fusing it to the anterior limiting layer of the vitreous. A cellular exudate is pouring out through the broken apices of the swollen processes; it takes a centripetal, axial course (15 to 19) (active exudate). This mass has only a moderate number of vessels (4 and 11), is irregularly infiltrated with the same types of cells found in the ciliary body, and, as in the ciliary body, shows areas where nearly all the cells are eosinophils (15 to 17) (less recent exudate).

While some connective tissue network permeates the more cellular portion, the inner and posterior parts of the exudate are by far the richer in a connective tissue which has become more or less laminated (15 and 27 v. G.) (old organized exudate). Here and there pigment is seen (10). In fifteen of the sections giant cells are to be found (15 and 24). *The oldest or most posterior part of the exudate, and the connective tissue* which separates the slanting ciliary epithelium from the pigment layer, lie on the inner surface of the back part of the orbiculus, while the more recent cellular exudate is situated opposite the corona. *The mass extends for a short distance* behind the ora and is attached to the folded and degenerated, severed retina. These facts furnish conclusive evidence that this mass originated from the region of the ora and not from the corona ciliaris. The lens is slightly subluxated downward. The equatorial zone of the lower half is completely enswathed in the cyclitic "callus" of organized exudate (15) (cataracta accreta). A thin delicate film of connective tissue with a few pigment-bearing cells, and some free pigment, covers the lower part of the anterior capsule. The capsule is wrinkled at the lower equator, probably from hardening. A thin fibrous tissue with spindle-shaped nuclei lies behind the capsule and extends over the entire pupillary surface of the body of the lens. This tissue consists of layers *of imbricated spindle-shaped* cells packed closely together *and does not* differ essentially in *appearance from ordinary* connective tissue (57 and 57 v. G.) (anterior capsular cataract). Fragments of broken-up cortex are imbedded in the capsular cataract. *Clefts in* the lens substance are filled *with fluid* and globules of Morgagni (55 and 57) (consecutive cataract).

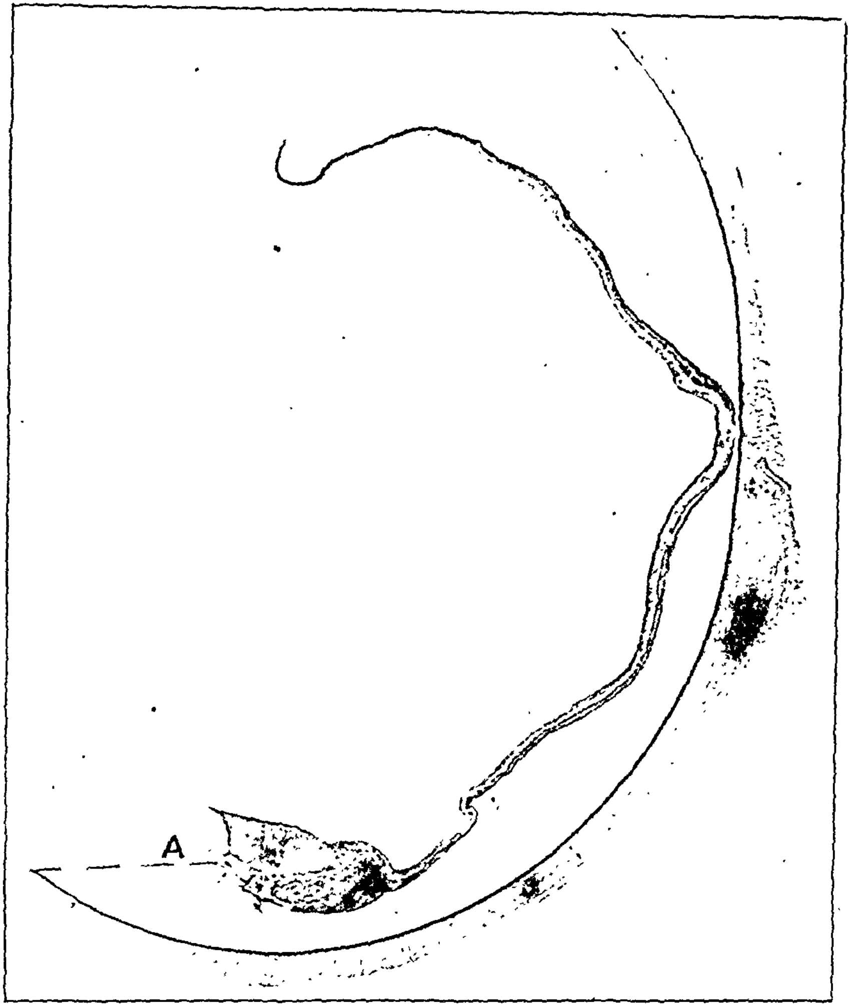

Fig. 5.—Vertical section through the posterior half of the eye, showing the tear in the retina and the old organized connective tissue "callus." A, tear in the retina.

The peripheral part of the chorioid is infiltrated with lymphocytes, leukocytes and plasma cells.

Anatomic Diagnosis.—1. Rupture of the retina following trauma; (2) chronic plastic iridocyclitis limited to lower part and *consisting* of two stages: (1) An old affection resulting in the formation of cicatricial tissue. (2) A recent affection of the ciliary body which has spread out in all directions, invading the iris and episcleral tissue, evidently along the perforating vessels and characterized by *the formation* of nodules of round, epithelioid and giant cells with central degeneration—a formation which can be considered miliary tuberculosis.

31 North State Street.

ABSTRACT OF DISCUSSION

Dr. B. F. Church, Redlands, Cal.: I have had such results in the treatment of tuberculous keratitis in a patient with tuberculosis by means of injections of guaiacol in 5 to 10 minim doses, that I wish to report it. I think *it* is *a much* shorter route than *resorting to tuberculin*, and is certainly much easier.

Dr. John E. Weeks, New York: There are two or three features in this report which have interested me very much, and which I think *can* be discussed with benefit. The appearance of the slight exudate, mentioned in the paper just read, is, so far as I have observed, quite characteristic of tuberculous infection. This exudate occurs in cases of tuberculosis of the iris, and in cases also of tuberculosis of the uveal tract further back. It is a very white exudate, fairly limited and not accompanied by hemorrhage or the appearance of vessels in the exudate. When we have tuberculosis of the iris, of course the iris is thickened *in addition*. These masses of exudate have the *appearance sometimes* of tufts. There will be perhaps one to three in the pupil when the iris is affected with tuberculosis. I would like to emphasize as forcibly as I can this typical exudate in the interior of the eye. Another point is that there was no reaction after the subcutaneous injection, as I understand it, of 10 mg. of T. O. Was the sample of tuberculin used reliable? I have observed quite a number of cases of intra-ocular tuberculosis, and I have *never failed* to get a local reaction by the subcutaneous injection of 3 mg. I have failed in using 1 mg., and in or two cases 2 mg., but 3 mg. has never failed in tuberculosis of the eye, whether of the sclera and cornea alone or of the conjunctiva or in intra-ocular tuberculosis. The Calmette and the von Pirquet tests are, in my opinion, of no consequence unless we are introducing into the circulation or into the system more than 0.5 mg. T. O. With the von Pirquet test by using the old drug undiluted we may introduce into the system 1 mg. or more than 1 mg. of tuberculin *that* may produce *a general* reaction, and with the general reaction we may *get* a local reaction *in the eye* when tuberculosis is present. The objection is that the reaction in the conjunctiva, or the reaction on the skin with the von Pirquet, is of no particular consequence, as we get the reaction when the tuberculous *lesion is in some other part* of the body. *Unless* in connection with these tests we get a local reaction, we cannot say the condition in the eye is tuberculous. So *the test* that is of value is the local reaction as obtained by the subcutaneous *injection of a diagnostic dose* of tuberculin. Now 10 mg. of preferred T. O. will often produce *a reaction* in the normal individual who has not had *tuberculosis*, and it seems to me incredible that this preparation of tuberculin was a reliable preparation because of the fact that no reaction whatever was obtained, either general or local, in this case. I may say in regard to another feature of this case, that improvement seemed to follow the introduction of the tuberculin. If I read the report right, after this diagnostic dose was given the eye seemed to improve somewhat. Is that not so?

DR. OSCAR DODD, Chicago: I was giving other treatment and the patient had considerable improvement before.

DR. JOHN E. WEEKS, New York: It seemed to me that the patient, even though no general reaction occurred, showed little improvement after the tuberculin was used and had a relapse of his tuberculous process and became worse afterward. In the treatment of tuberculosis I have had two or three relapses because the tuberculin was discontinued too early, but a resumption of its use brought about recovery. In quite a number of cases—I think about eighteen—the results have been quite satisfactory by the subcutaneous use of tuberculin, using only T. R. for therapeutic purposes. But the ordinary T. O. also possesses marked therapeutic value, as has been demonstrated in a few cases in which I have used it purely.

DR. J. A. DONOVAN, Butte: Dr. Weeks introduced an innovation about the reaction of tuberculin that I thought about in connection with this case. I had a series of cases—in fact, they are under treatment now—of six patients whom I had been treating with one of the local tuberculins. In two of these cases in which I was not getting as much results as I expected I switched to a German preparation. One woman and one man in whom I got practically no reaction at all before, were put in bed sick, with an elevation of temperature. A laboratory man said that tuberculin was not standardized at all and that I should not have done it. I treated one patient in St. Paul some years ago with tuberculin with apparently beneficial results, but in two or three instances I had to go back to guaiacol. I got the suggestion of guaiacol (2 per cent. in glycerin) from Dr. Darius, and in every case I have had that gives immediate reaction, and it is very much more positive, so far as improvement is concerned, than tuberculin.

DR. OSCAR DODD, Chicago: The appearance of the exudate, as mentioned by Dr. Weeks, to me was suggestive of tuberculosis; so much so that I could hardly believe the fact of not getting a reaction. As to the reliability of the tuberculin, it was the preparation used in the hospital which they had obtained results with. I should have made tests with other patients in order to control it. As to the improvement after the use of the tuberculin, the tuberculin test was *not given until* after the eye was really rather quiet. Under atropin and dionin the eye would quiet down and remain so until I stopped the atropin again. The tuberculin test was not given until the latter part of June, on account of the fact that the patient would not consent to go into a hospital until that time, and the eye *made no particular change*, so far as I could see, following that. About August 13 the patient went away on a vacation and did not return again until October 20. The eye remained quiet until about two weeks before he returned, when the rapid changes in the lens and eye necessitated removal. Another point which I do not speak of in the paper was the fact of the irritation of the other eye. It was very much irritated, and after the pathologic examination the specimen was carried by Dr. Lane to Professor Salzman, who said at once that the patient must have had irritation of the other eye, a fact that was true throughout the case. He was unable to use his other eye to any extent.

Barbers and Surgery.—The barber of the present day is not expected to do surgical work, although his sign still gives notice that accidents may happen. The bloody pole with its white bandage reminds us of the day when the barber was the surgeon. The family of Poisson decided for him in his youthful days that the work of a notary required greater intelligence than he possessed, and advised him to become a surgeon. It was not until 1745 that the "barberous" work of the surgeon and the surgical work of the barber were, in England, eliminated by law, says F. E. Nipher in *Science*.

PLASTIC SURGERY OF THE EYELIDS, USING THE WOLFFE GRAFT *

F. PHINIZY CALHOUN, A.B., M.D.
ATLANTA, GA.

Plastic surgery has always impressed me as being the height of all surgical skill. For obvious reasons plastic surgery about the face, about the eyelids particularly, not only requires good judgment on the part of the operator, but his technic is put to the severest test.

The operation for the restoration of the lids and of the cul-de-sacs in contracted orbits, in the complete ectropions, especially from burns, and many other conditions, makes the deep cutaneous graft of Wolffe the ideal one to be used in such cases. My experience in twenty-five cases in which this cutaneous graft was applied has been so satisfactory and the method employed is so simple that I present the subject with the hope that it will be of interest. No claim is made to originality in the operation to be described, for my ideas were obtained from observing other operators.

There are two important steps to be remembered: First, the surface to be grafted must be denuded and must have sufficient blood-supply to nourish a healthy graft; second, a graft must be obtained of sufficient size to more than cover the area.

The ideal case is a complete ectropion of the upper or lower lid, and the one I now report, in which the result was most brilliant, was that of a farmer who, eighteen years before the first operation, had fallen into an open fire, burning the left side of his face and forehead. In time there was a complete distortion of that side of the face from the cicatricial contraction, and the ciliary margin of his upper eyelid occupied the position of his eyebrow, which had been destroyed, and the margin of the lower eyelid was pulled well down on the cheek. The conjunctival surfaces of the lids were completely everted and exposed, and from prolonged exposure they had become much thickened, resembling a velvety type of trachoma. The picture he presented was horrible. Fortunately the man had excellent vision, the globe in no way being injured. Two operations, at six months' interval, were required, the upper eyelid being first operated on.

After cleansing the face with ivory soap and water, then irrigating with a normal saline solution, I made a superficial incision above the ciliary margin, then little by little I undermined the whole lid, as one would in an ordinary integument dissection, preserving the muscular structure. This flap of the lid, when folded down over the globe, nearly covers the entire exposed conjunctival surface of the lower lid. Bleeding is of no consequence, but should this be troublesome a small artery clamp applied for a few moments would control the annoying vessel. After this part of the operation is completed, and the operator is sure that the eyelid will remain in place from its own weight, a pad saturated with hot saline solution is applied and gentle pressure made by an assistant, while the graft is obtained from the inner surface of the arm, forearm or thigh. I have never obtained a graft except from the inner arm, and in one case I removed, at intervals, five grafts from the two arms. The left arm is generally prepared, after the usual manner of shaving, cleansing with green soap, bichlorid of mercury and a saline dressing applied some hours before the operation, so that the graft will be as little irritated as possible at the time of the operation. A nurse or an attendant holds the arm out from the body by the hand, and the arm is wrapped with sterile towels.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Some idea should be had as to the size of the place to be covered, and I usually measure it roughly with the handle of my scalpel, then make the graft at least one-third larger, allowing for shrinkage and a loose fit. An oval graft is advisable, as the wound of the arm which is to be subsequently closed leaves only a linear scar. I usually mark off on the skin of the arm with the knife four small lines indicating the size of the graft, then connect them with a superficial incision, and as the graft is removed the incision is deepened, extending down to the fatty layer. A pair of tissue forceps and a Desmarres lid scarifier are the only instruments necessary in this step of the operation.

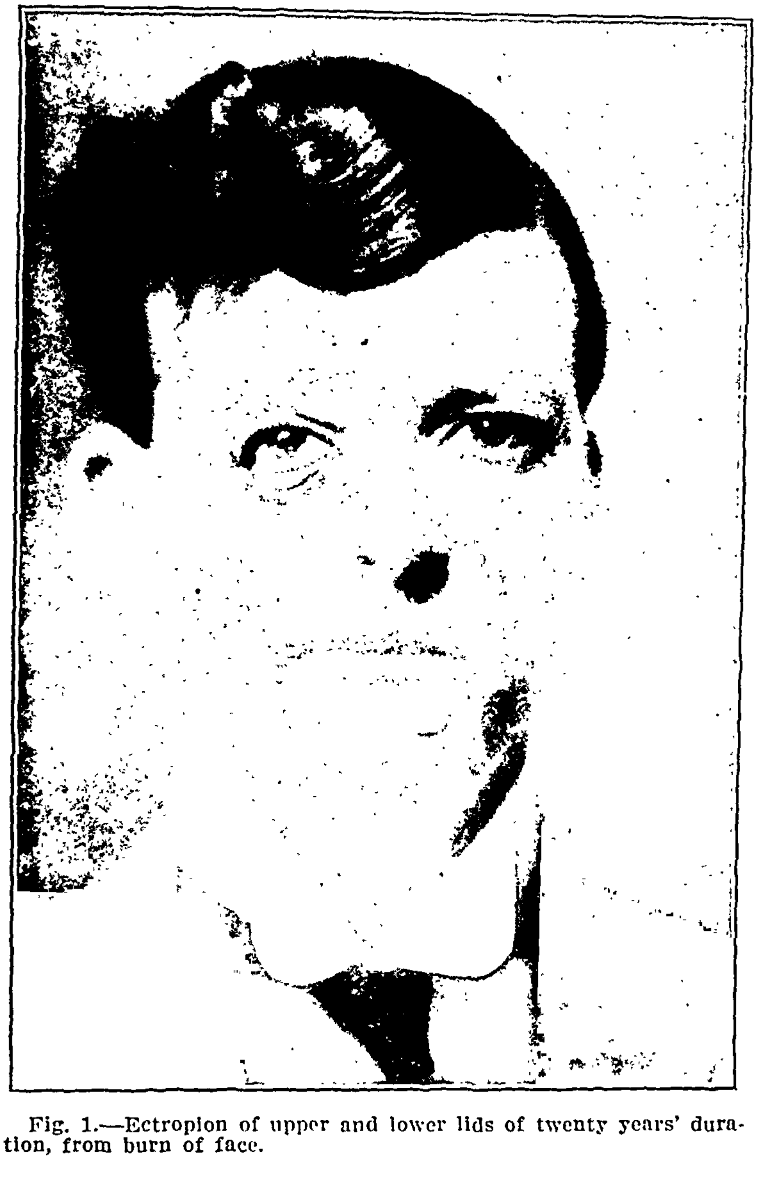

Fig. 1.—Ectropion of upper and lower lids of twenty years' duration, from burn of face.

The graft should not contain any of the areolar or fatty tissue, and after its removal, with a pair of scissors curved on the flat, the raw surface should be trimmed of all the loose and unnecessary tissue; it is then placed in a towel wet with warm saline solution and is ready to be applied to the raw surface previously made.

The arm wound can be repaired by an assistant, or later by the operator. This operation simply consists in undermining the edges sufficiently to bring them together without tension. Two or three silkworm gut retention sutures are best used, followed by a continuous silk suture of coaptation; a dry dressing is applied and the wound is not disturbed until the fourth day. The nurse should watch for swelling of the hand for several hours after the operation; if present, this would indicate a restricted blood-supply from too tight a bandage or tension of the wound.

The new graft should be applied immediately to the raw surface for its nourishment, but all bleeding of the wound must first be controlled, lest a blood-clot subsequently forming beneath the graft delay healing or form a good *nidus for infection*. I use a strabismus hook to smooth the graft into place, and it is remarkable how an irregular surface can be beautifully and evenly covered. Small sutures of No. 5 black silk are used to hold the graft in place. They are first placed at four equidistant points, to even the graft, then the space between is filled in with as few as possible to hold the graft steady. If the graft is too large, it can be trimmed after it is in place; but it is better to have a too large, loose fitting graft than a too small, tight one. The subsequent contraction may spoil a beautiful operation.

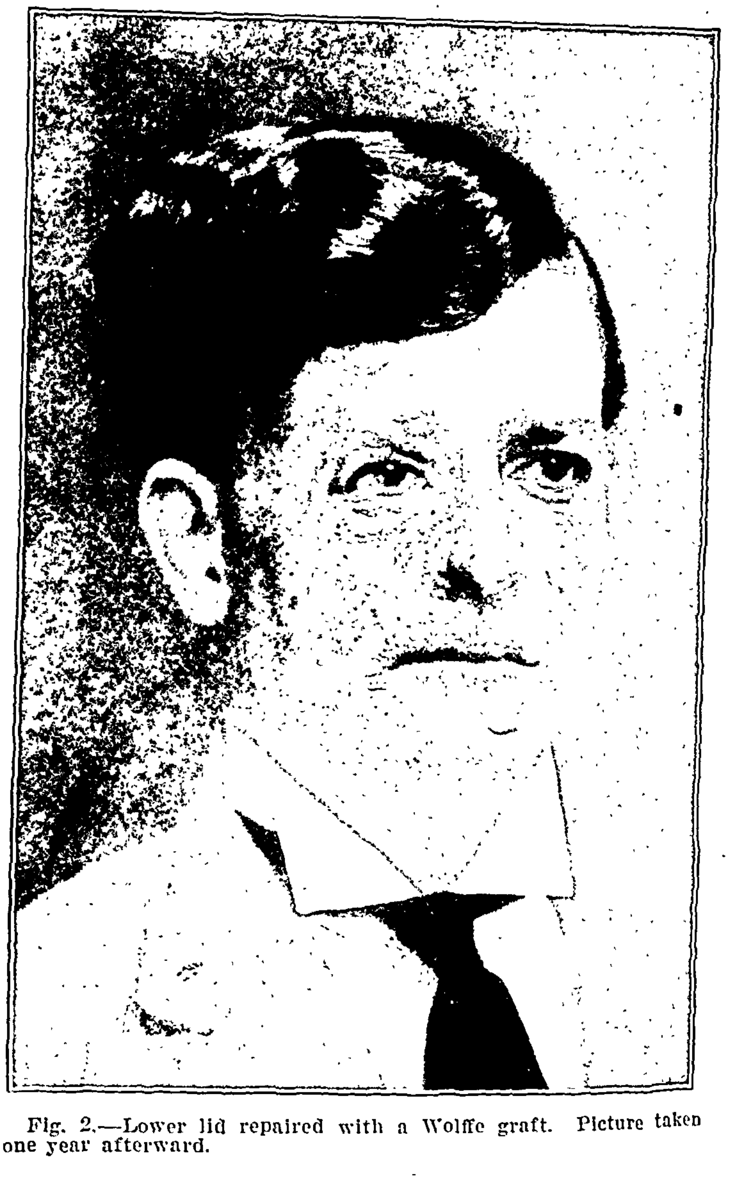

Fig. 2.—Lower lid repaired with a Wolffe graft. Picture taken one year afterward.

A dry dressing is applied, made up of several layers of gauze to absorb the secretion, then loose gauze on top. The first dressing should not be made sooner than the fourth day, then the adherent pieces of layer gauze should be moistened in order not to pull apart the wound. The sutures can be removed, or at least a part of them, for I have found that delayed removal may cause a slight infection, which may destroy the graft. Sterile petrolatum should be gently smeared on the wound, and a tight dry gauze dressing applied. At intervals of two or three days the dressings should be changed until the superficial epithelium of the graft commences to slough, then the wound should be cleansed daily. The slough may be frequently trimmed. In about three weeks the patient can go without a bandage or other protection, but for many months later it is well to have the patient massage the new lid daily with petrolatum, so that it may be kept soft.

In my second case of ectropion of the lower lid there was a slight recurrence two months afterward, but daily massage entirely corrected the condition. The method of restoration of the cul-de-sac by using the Wolffe graft is described in the excellent monograph of Weeks.[1] While the major points of that operation are similar to the method just described, some niceties in technic and the application of sutures and the use of the dental rubber plate for the holding of the graft are more thoroughly explained.

While the operation that I have just described applies best to flat surfaces to be grafted, chiefly ectropions, I have recently used it with success in two nose cases in which the alæ had been destroyed by burns, and in a case of burn in which the upper lip had been pulled high up on the cheek from the scar contraction. The vermilion border was undermined, the scar in part being dissected out and a very loose graft applied. The appearance was much improved.

So far I have not had an infection or a complete failure. The nearest approach to failure occurred in a severe case of ectropion of the lower lid referred to me by Dr. W. P. Nicolson. The patient had had a mole removed from his cheek years ago by the application of some caustic paste, which had caused so much tissue necrosis that most of the soft tissue of the cheek on one side had been destroyed, exposing parts of the upper and lower jaws. Dr. Nicolson restored the cheek by a pedunculated graft removed from the neck, and referred the patient to me to correct the lid deformity. There was little sound surface for the graft, except the deflected ectropic lid, and the slough that followed only delayed epidermization.

672 Peachtree Street.

ABSTRACT OF DISCUSSION

Dr. John E. Weeks, New York: The operation for restoring the lid in ectropion presents a number of important features which may be mentioned, and one is the preparation of the area to be covered. In burns of the skin either above or below, if the burn is extensive the margin of the lid is drawn well up to the brow, and in some cases the ectropion is complete. In these cases the margin of the lid, or what remains of it, the conjunctiva and the tarsus, with a portion, perhaps of the orbicularis muscle, should be dissected from the underlying tissue, and it is well to attach the margin of the lid to the cheek by means of sutures so that the margin of the upper lid, if we are operating on that lid, overlaps the lower lid in its normal position from ⅓ to ½ inch, in order to give as extensive an area as possible on which to apply the flap, because we must provide for subsequent shrinking. The flap, as Dr. Calhoun has said, should be made somewhat larger than the area to be covered as it is marked out on the surface from which the skin is to be removed, as the arm, so that if we make an allowance of one-third of the diameter of the denuded area it will shrink so that it will just about cover the area. The largest flaps I have transplanted have been 2½ by 2¾ or 2½ by 3 inches in diameter. The flap is removed, taking with it as little subcutaneous tissue as possible, and this tissue, if it has been raised with the flap, should be removed as well as possible before the flap is put in position. The question of the retention of the flap in position then comes up. It was my practice years ago simply to undermine the edges of the denuded area to some extent and to crowd the edges of the flap into this little groove thus formed and to permit it to lie in position without the application of sutures; but later I employed fine sutures to attach the flap to the margin of the denuded area, and also one or two sutures passed through the center of the flap to hold the flap to the underlying tissues. This is not often necessary. It occurred in one or two cases that the margin of the flap became displaced somewhat unless it was held in place by sutures. In regard to the dressing, it has been my custom to cover the flap either with gold-beater's skin or with rubber tissue, the surface of which has been smeared with sterile petrolatum, or petrolatum to which some bichlorid has been added in the strength of 1 to 5,000, then to apply a dry dressing and permit the eye to remain bandaged three to five days before disturbing it, according to the symptoms. The place from which the flap should be obtained is the inner surface of the arm, provided this is available. In some cases it is not available and I have removed the flap from the inner surface of the thigh. In one case I had a failure with a flap from the thigh. This was in a patient who was burned, and her condition was not very good, and because of some peculiarity which I did not and do not understand I had sloughing of the flap. The flap can be removed deliberately. There is no necessity for hasty removal although the removal of the flap and placing it in position should be as expeditious as is consistent with good technic. Perforation of the flap is not harmful.

Dr. F. B. Tiffany, Kansas City, Mo.: I wish to emphasize the importance, as Dr. Weeks has said, of freeing the flap from the connective tissue below. This will prevent its shrinking. There will not be nearly as much shrinking if this is done.

Dr. William Zentmayer, Philadelphia: My experience with the Wolffe graft has not been very satisfactory on account of the amount of contraction that occurs with the lapse of time. A year ago I operated for a cicatricial contraction of the lower lid, and when I exhibited the patient at the Clinical Society at Wills Hospital the result was as nearly perfect as it could be. That flap from that day on has dwindled and dwindled until to-day the result is very little better than it was originally. I remember very well Dr. Hart telling us of a case shown at the American Ophthalmological Society. He took the patient to New London and exhibited him, and then took the patient to the meeting a year later to show that the flap had disappeared. There was not a trace of it remaining. I am sorry to say my experience has been the same with small flaps. There may be some fault in the technic; there may be some subcutaneous tissue left, but I try to do it just as Dr. Weeks explains it.

Dr. W. E Lambert, New York: I have had the opportunity of doing a number of these cases. Dr. Zentmayer has emphasized the importance of removing the subcutaneous areolar tissue, which takes away the tendency to shrink. A large flap is important. I would emphasize the importance of using the sutures. I had a similar case in which this operation was made for the cure of an ectropion, and the picture of the case here reminds me of that. Proceeding as Dr. Calhoun has described, the result was satisfactory. Dr. Calhoun did several of these operations while an intern with us, and I can testify to his expertness. We are glad to turn these cases over to the house surgeon. A case similar to the one described I did some time ago and the result is yet most satisfactory.

Dr. F. Phinizy Calhoun, Atlanta, Ga.: The longest time I have had a case under observation is six years, and every year it seems the patient improves. There is no contraction such as Dr. Zentmayer describes in his case. I do not know why that takes place except that the areolar tissue is left and makes the contraction more marked. This paper deals with twenty-five cases, and since writing it I have had three others. In the first of the series of three by accident the graft fitted the denuded surface exactly. I noticed that the healing was quicker than when a large graft would be crowded into an area, but I do not know that this is advisable, because the contraction in instances in which the flap fits exactly would be more marked than when the flap would more than cover. The cases in which operation has been done were mostly cases in which there were severe burns of the face of long standing. The second patient of this series of three was a man who was burned about six months ago. Three months after the burn I operated, and that really is the only case in which I have had a failure, the only case in which there has been marked contraction of the flap following the operation. I attribute that to the fact that I did not wait long enough. If I had waited six months longer, or a year, or two or three, the result would have been better. I usually take the flap from the inside of the left arm in right-handed people. But I have operated on a girl five times. I have restored the upper and lower lids, the area about the nostrils, and have operated also for contraction of the upper lip. I have taken two grafts from each arm and one from the inner surface of the thigh. I only operate on one lid at a time, because in these cases it is necessary to undermine the lid to pull it down and it more than covers the eyeball, whereas if you operate on both lids at one time one lid would overlap the other, which would be objectionable. I always apply a dry dressing first to absorb as much of the moisture, tears and blood as possible. The application of petrolatum, I believe, would prevent this absorption. After the first dressing petrolatum is an ideal dressing.

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[1] Tenth Congress of Ophthalmology, Lucerne, 1904.

A CASE OF ACUTE GASTRIC ULCER OF THE ANTERIOR WALL

ANTHONY BASSLER, M.D.
Gastroenterologist to the Peoples Hospital and German Poliklinik
NEW YORK

Ulcers of the posterior wall and greater curvature of the stomach and duodenum in the region of the pylorus are most common, while those of the anterior wall all the way to the fundic region are distinctly uncommon—comprising, possibly, not more than 10 per cent. of the areas with which gastric juice comes in contact in the process of gastric digestion. Ulcers in the latter location are but rarely diagnosed medically, diagnosis usually taking place at operation for their perforation, a complication most likely to happen in these cases because of the unprotected anatomy of the anterior area of the stomach. The rapid peritonitis consequent to perforation of these ulcers, also makes the diagnosis o them important, and a case is offered in which this wa possible and in which the medical treatment wa successful.

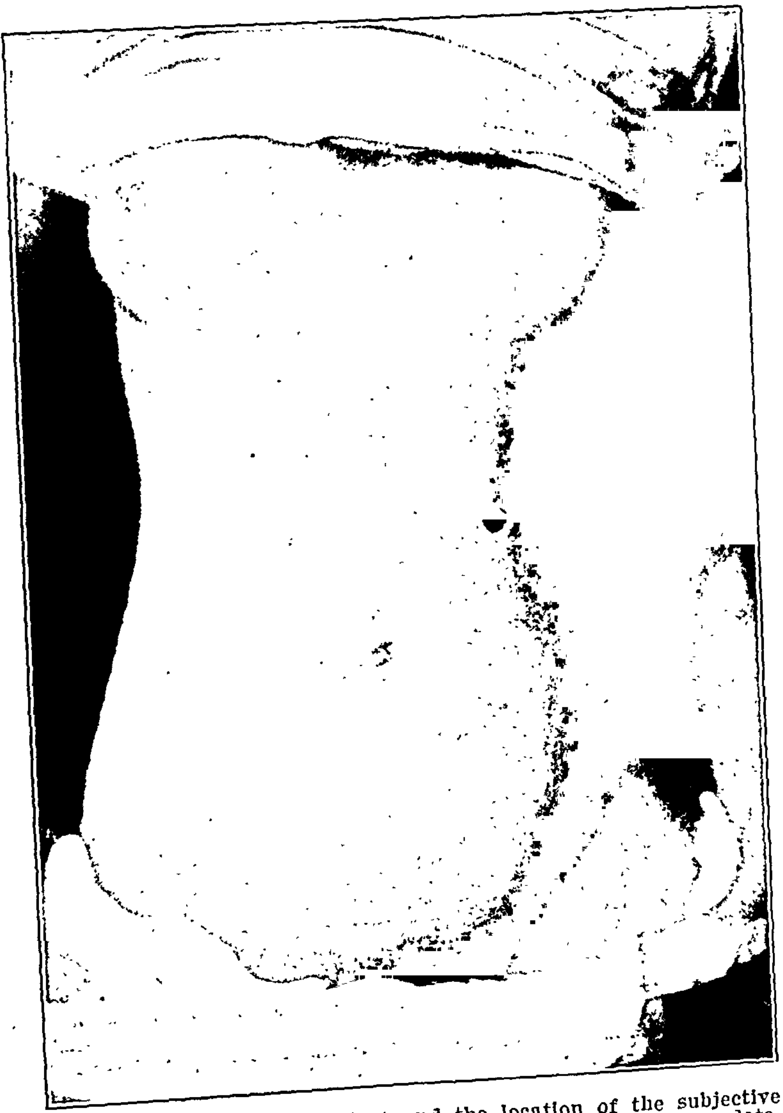

Fig. 1.—Showing the patient and the location of the subjective pain, the point of tenderness on pressure and the plastic exudate. There was no referred pain or tenderness in the back.

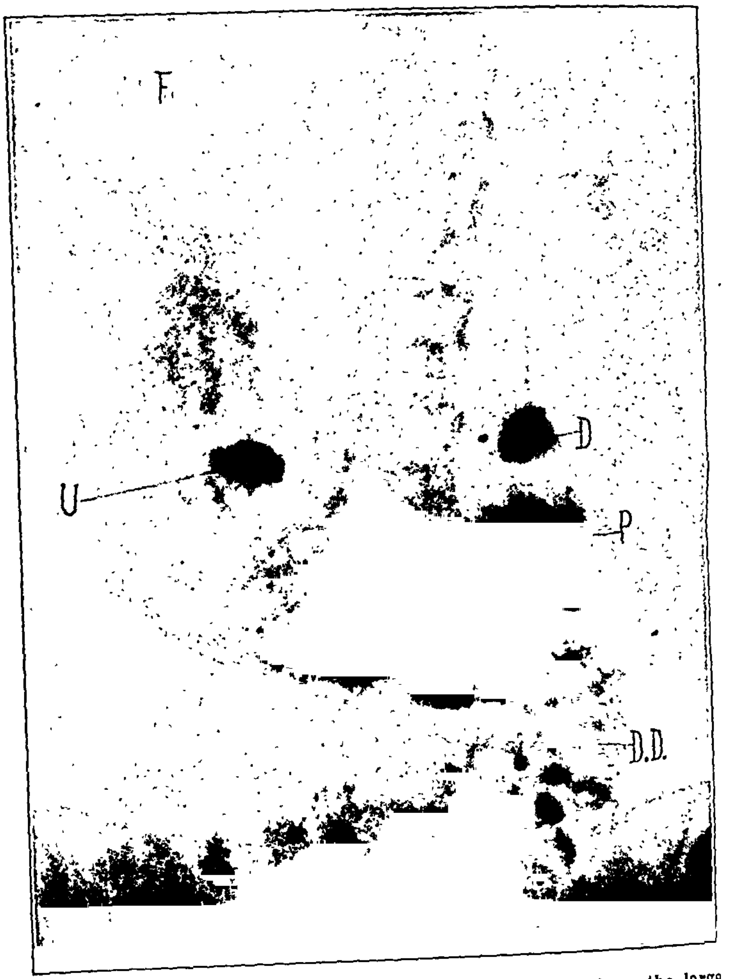

Fig. 2.—X-ray plate of the patient, showing the ulcer, the large and prolapsed stomach and the hypermotility. U, ulcer; D, firs part of the duodenum; P, pylorus; DD, lower portion of th duodenum; and F, fundus with the stomach rugæ below it.

Patient.—Miss E. McD., a stenographer, 18 years old, wa first seen on Feb. 28, 1911. Her father died at the age of 45 cause unknown. The patient's mother was living and wel The patient had always been fond of sweets (mostly candy and had indulged intemperately for several years, which a times had brought on an acute distress in the stomach with day or so of anorexia; other than this the patient had had n illness except measles and scarlet fever in early childhood. I December, 1910, she began to have a constant distress in th stomach, in which the symptoms of excessive gas collecti with eructations and pain an hour after meals in the left side of the abdomen were the prominent features. This pain, which was most acute, was relieved to a moderate degree by the taking of food, more so by bicarbonate of soda, and was entirely relieved when the patient lay flat on her back with her corsets off. She stated that by taking milk, eggs and other simple foods in small quantities at a time with the assistance of bicarbonate of soda, she was able to be about at her work. The solid foods she ate evenings and Sundays when she could lie down for three or four hours after taking them. According to her statement, she had lost only 4 pounds since the beginning of her illness.

Physical Examination.—The patient's facial expression was that of intense suffering while sitting and changed to one of complete relief when lying. The lungs were normal, and the heart also, excepting a hemic blow over the body which was transmitted to the vessels of the neck. The skin and mucous membranes were abnormally pale. There was but slight development in the soft body tissues; the long chest and abdomen presented the type of a girl. On palpation the abdomen was held contracted, especially on the left side, and notably the left rectus muscle. An area of exquisite tenderness to pressure was evident about 2 inches above the transverse umbilical line and just at the edge of the rectus. Careful palpation of this area with the knees raised toward the thorax disclosed a mass, thin and soft to the touch, at the exact site of the tenderness, which I am led to believe was a plastic exudate on the gastric peritoneum over the ulcer. The stomach was low and dilated, and gases could be heard passing through the pylorus. The right kidney was palpable to within an inch of the upper pole under deep inspiration. The test-meal (simple) taken the next morning showed a return of 120 c.c., a free hydrochloric acid, 55; combined hydrochloric acid, 28, and a total acidity, 87. A small amount of macroscopic blood was present with one small clot. The feces voided the day before and two days afterward showed the presence of occult blood. Three *x*-ray plates were then taken. Each showed that the stomach had discharged the greater portion of the ounce of bismuth given into the small intestine (hypermotility), that the organ was large and low (dilatation and prolapse), and that the ulcer-bed was lined with bismuth. When the *x*-ray plates were held against the patient's body, and the ensiform and umbilical markers on the plates matched to these parts on her body, the location of the ulcer noted on the plate corresponded exactly to the point of tenderness and the plastic exudate.

Course of Disease.—The next morning when the patient went into the hospital, the blood showed erythrocytes 3,700,000, morphology normal, hemoglobin 67 per cent. (Dare), color index 0.6, leukocytes 8,290, and differential count normal. Kept steadily in bed for three weeks, she was fed by the Lenhartz method, the feedings of milk being given at stated times and amounts during the day and night. The administration of finely comminuted foods was begun late in the third week. The stomach was maintained alkaline by a mixture of alkaline powders, without soda bicarbonate, this being given at three-hour intervals. The bowels were moved each day by a castile soap enema (not saline, because this increases the hydrochloric acidity in the stomach). Liquor ferri albuminatis in 2 dram quantities in water t. i. d. was used to combat the anemia, and an ice-bag was employed during the first days to decrease the tenderness at the ulcer site, although this was hardly necessary as the patient was on her back all of the time. She made a perfect recovery, and when she left her bed there was no spasm of the left rectus, no tenderness on pressure over the ulcer site, and no plastic exudate. The blood had come up to 4,100,000 erythrocytes, 87 per cent. and color index 0.85. She was then fitted with a corset which raised the pyloric region over four inches; her feeding was increased to the taking of more solid foods, the alkaline powder kept up, the iron tonic diminished to half quantity each day, and Carlsbad salts used to move the bowels. She went into the hospital weighing 98 pounds, and now at the end of two months thereafter weighs 127 pounds, and is without a symptom of digestive distress. The *x*-ray plates of to-day do not show the ulcer; the stomach is smaller in capacity, hypermotility is no longer a feature, the test-meals are normal, and the feces free from blood.

126 East Sixtieth Street.

Legal Sentence of Optional Suicide.—In Nevada a condemned first-degree murderer may select one of several methods of self-poisoning in lieu of hanging. Among the poisons he is allowed to select for self-administration is hydrocyanic acid with the information conveyed with the death potion given him, that a drop of this drug put on the tongue will kill instantly.—*Alienist and Neurologist.*

FRACTURE OF THE CERVICAL SPINE*

THOMAS M. WILLIAMS, M.D.

PALO ALTO, CAL.

History.—H. M., aged 24, a Stanford student, very muscular and athletic, while performing in the gymnasium was tumbling over a horse 2 to 3 feet high. He had taken hold of the saddle, flexed his head and neck, and was in the act of going over when his hands slipped off the saddle. His feet being in the air he fell to the mat on the same side of the horse from which he started. He landed on the left side of the head, with the neck completely flexed and was picked up by the boys in the gymnasium and found to be completely paralyzed from the neck down. He was entirely conscious, and complained of some pain in the neck. He had difficult and asthmatic breathing and a weak pulse. Dr. Mosher, who was near at hand, had him placed on one of the stiff mats and with a student to hold his head in extension sent him to the Peninsula Hospital where I saw him on arrival. He was cyanotic and in a state of considerable shock, but had a normal pulse-rate and was given camphorated oil and strychnin with good effect. The pain in the neck was relieved to some extent by slight extension and pull on the head. This also improved the character of the breathing. If the pull was allowed to relax, the patient became more cyanosed and his breathing more asthmatic and some one had to hold his head in this position until we could get a head harness arranged and fitted to him. On first manipulating the head I obtained crepitus in the lower cervical region and a slight prominence could be felt on the right side of the midcervical region. This extension had to be kept up so long as the patient lived, except when he would ask to have it removed for short intervals. This change gave his neck a rest but he would soon ask to have weights reapplied. At first 15 to 20 pounds was necessary. Later 5 pounds was sufficient.

Examination.—At this time Drs. Josiah Kirk and H. B. Reynolds of Palo Alto saw the case with me. A few hours later Dr. Stanley Stillman and Dr. R. L. Wilbur of San Francisco were called and a complete examination disclosed:

1. Complete paralysis of all muscles below those supplied by the nerves from the fourth cervical segment. Patient could shrug his shoulders or move his head.
2. Complete loss of sensation in all its forms extending up to a line of demarcation extending across the chest 2½ to 3 inches below the clavicle and running out over the upper part of the deltoid and around the back.
3. Loss of knee-jerk, ankle-clonus and cremasteric reflex. Plantar reflex normal. (The patient felt the tapping in the back of the neck when the patellar tendon was struck. This was not felt when tapped at any other point.)
4. Priapism partial. Increased by passage of catheter. Bladder and rectum paralyzed.
5. No profuse or abnormal sweating in paralyzed or other parts of body.
6. No areas of hyperesthesia or pain pointing to irritation.
7. Pupils contracted slightly but reacting to light and accommodation.
8. Temperature 97; pulse 71; respiration 32;
9. Respirations purely diaphragmatic and asthmatic. It is interesting to state here that the boy was a sufferer from asthma, and that the accident brought on an acute asthmatic attack.
10. No interference with swallowing and no hematoma in pharynx.

Dr. Kirk succeeded in getting an *x*-ray photograph of the neck taken from the side which showed a fracture of the fifth cervical vertebra and a dislocation between the fourth and fifth. Displacement was very slight. The plate also shows very prominent body of axis, which might lead one to believe that there was an anterior displacement of the vertebra.

At this time all those who saw the case, I believe, were agreed that there was no indication for operation but that in all probability the cord had been severed and the dislocation had been reduced.

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* Read before the California Academy of Medicine, April 24, 1911.

The diagnosis was probable fracture and dislocation forward of fourth cervical vertebra completely severing the cord.

The following day Dr. Watters of Watsonville, the boy's family physician, saw him but could see no reason for an operation.

The symptoms as above given remained practically constant for the next five days, except that after two days the plantar reflex became greatly exaggerated so that a stroke on the sole of the foot would cause a contraction of all the muscles of the leg and thigh. The asthma cleared up and breathing was easier, and the patient had at times a sensation of fulness in the stomach and bladder; a time or two also he said that he had a tingling in his hands, that one foot was drawn up or that his hands were extending up above his body.

The bowels were moved by enema, and the bladder emptied of normal urine by catheter. There was some increase of gas in the bowel but no marked tympanites. There was no profuse sweating, no indication of pressure necrosis, and less pain in the neck. The patient slept fairly well. He continued to have trouble clearing his throat of mucus, as he was unable to expel it by coughing, but he had no trouble whatever swallowing food and water. At times he said that he felt like vomiting but he never did so. At times he said that he had pain in the small of the back relieved by change of position. The blood-pressure varied between 110 and 130 mm. and the temperature ranged upward from the beginning, reaching 104.4 F. twelve hours before death. The pulse remained slow and of good quality; the respiration was irregular at times, and the patient was slightly delirious a few times at night, though otherwise perfectly conscious up to within two hours of his death.

On the morning of the fifth day he was cyanosed, with weak pulse and the right heart extended considerably to the right of the sternum; the breathing was shallow, the pupils contracted and the patient restless and uncomfortable. There was dulness at the base of both lungs with coarse râles. The pulse grew weaker rapidly, and the respirations more shallow; the patient became unconscious and both pulse and respiration ceased. The patient went through all the death agonies and was apparently dead, but after some minutes the heart began to beat violently, and respiration began again. Within a few minutes the color was good, pulse stronger, and respiration as easy as at any time. Again the respiration and pulse failed and life seemed extinct. This was repeated four times before death, the patient remaining unconscious from the first collapse. The cause of death was apparently an edema of the cord extending downward to the first dorsal segment, leading to the narrowing of the pupils, and upward to the phrenic centers in the fourth cervical cord segment, causing the respiratory disturbance.

Thomas, in the Report of the Boston City Hospital for 1900, sums up the indications of complete severance of the spinal cord as follows:

1. Complete paralysis, usually of flaccid character.
2. Complete loss of sensation in all its forms.
3. Absence of reflexes, especially of knee-jerk, while the plantar on the other hand is often retained.
4. Complete paralysis of bladder and rectum with priapism.
5. Vasomotor paralysis with sweating of paralyzed parts.
6. Most important is absence of variation of symptoms.
7. Absence of irritative phenomena such as pain.

We had then apparently the classical symptoms of completely severed cord.

One thing apparently mentioned by many reports is the profuse sweating, which was lacking in our patient; and another thing in this case, not brought out in anything I have read, was the great exaggeration of the otherwise normal plantar reflex. This was not of the Babinski type.

The young man's father was willing and anxious for a necropsy and we were thus enabled to confirm or disprove our diagnosis. There was no difficulty in saying to what segment of the cord the injury reached, but those of us who were willing to venture a diagnosis as to what vertebra was fractured before making a close study of the x-ray plate placed the fracture too high up, as is practically always the case, according to various clinical reports.

Necropsy.—Dr. Zinsser and Dr. Meyer performed the necropsy. The right heart was markedly distended with dark blood, and there was congestion of the pulmonary bases, but no sign of infection in the body. Dr. Meyer was kind enough to remove the first six cervical vertebræ with the cord and to prepare the specimen for me. His report follows:

Anatomic peculiarities, first six vertebræ: Ventrally the specimen as a whole is slightly asymmetrical, the right half being larger.[*] On its ventral surface there is a marked depression directly inferior to the arch of the atlas. This depression is due to the presence of a large arch with a prominent tubercle in the mid-line and to a still more marked right superior articular process on the axis. Moreover the anterior surface of the odontoid process slopes gradually backward or dorsally throughout its extent and the body of the axis is unusually prominent.

The spine of the axis is very broad and thick, but that of the third vertebra is very narrow and pointed and deflected to the left so as to be united closely with the left process of the deeply bifurcated spine of the fourth. The spine of the fifth, which is deeply and asymmetrically bifurcated, is markedly inclined, completely clasping the spine of the sixth and firmly interlocking with it.

On external examination no displacement of the spines was noticeable. Pharyngeal examination revealed nothing save a marked depression high up in the retropharynx. Digital pressure in this depression accompanied by firm support of the occiput followed by sudden relaxation resulted in a slight but definite impact.

The six cervical vetebræ were dissected *in toto.* No ecchymosis or displacement was noticeable until all muscles had been removed. On the anterior aspect of the specimen a slight depression and ecchymosis into the deep fibers of the longus colli muscle and the anterior common ligament were noticed over the right half of the body of the fifth vertebra. There was also a fracture of the right inferior articular process of the fourth and a superficial fracture of the dorsal inferior portion of the corresponding lamina. A similar fracture of the dorsal inferior surface of the left lamina of the fifth was also present but there was practically no displacement of these fragments; the ligamenta subflava were intact and the external or lateral portion of the articular capsule of the fourth was not ruptured, though the extension of the fracture into the pedicle of the fourth would seem to imply that the minor portion of the capsule was torn.

There was no extradural blood, but the dorsal surface of the dura was somewhat hemorrhagic in the region of the third and fifth vertebræ. But a small amount of cerebrospinal fluid escaped, though the subdural space was completely obliterated by the swollen cord, which completely filled the dura from the third vertebra. The pia and arachnoid were intact, but the cord was plainly hemorrhagic throughout the region of its enlargement. There was marked softening and a depression in its substance was palpable opposite the root of the fifth nerve.

After hardening, the nerve-roots on the right side were cut and the cord reflected to the left. A slight round prominence and a longitudinal tear 2 cm. long on the dura and posterior common ligament were found opposite to the fourth and fifth vertebræ. The prominence was confined *to the body* of the fifth, while the mid-point of the tear was opposite the third intervertebral disk, i.e., the one between the fourth and fifth vertebræ. Opposite this tear a similar one, but only 1 *cm.* long, was found in the arachnoid and pia, and through it about one-third c.c. of cord substance protruded. There was only a trace of a clot surrounding the tear in the dura and ligament. On transverse section the gray matter of the cord was found to be practically obliterated by hemorrhage and there was softening of the whole substance of the cord in this region of enlargement.

On sagittal sections of the bodies of the vertebræ a comminuted fracture of the right part of the body of the fifth accompanied by a transverse fracture of the disk between the fourth and fifth were found present.

Some of the organs (lungs, kidneys, spleen, heart and aorta, piece of stomach) were submitted to Dr. William Ophüls for examination who reports as follows:

Pathologic Report.—Some irregular areas of collapse in both lower lobes; no scars of apices. Very slight pigmentation with coal dust. Aorta small, moderate hypertrophy of left ventricle (athletic). Few small slightly elevated yellow spots in aorta and on large flap of mitral valve. Hemorrhagic erosions in stomach. Marked fetal lobulation of kidneys. Marked passive congestion of spleen and kidneys. Emphysematous inflation of asthmatic lungs. Sections of lungs show hypertrophy of involuntary muscle in small bronchi. Much contracted and lumen of bronchi very narrow. Lung tissue hyperemic, air-spaces partly dilated, partly collapsed. Few areas of cellular thickening and fatty degeneration in intima of aorta; some fibrosis in media and adventitia. Kidneys show desquamation in small tubules, few hyaline glomeruli, no arteriosclerosis in larger arteries. Marked hyperemia of venous capillaries in spleen. Mucous membrane of stomach normal. Asthmatic lung, partial collapse of lung tissue, passive congestion of kidneys and spleen; beginning arteriosclerosis of aorta.

ANAPHYLAXIS AND THE TOXIC SUBSTANCE FROM VIRULENT PNEUMOCOCCI *

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From a study of the action of autolytic extracts in NaCl solution of virulent pneumococci, it has been learned that they become very toxic to normal guinea-pigs at a certain period during autolysis. Intravenous or intracardiac injections of from 3 to 7 c.c. produce symptoms and post-mortem changes in every way typical of anaphylactic shock obtained in sensitized pigs following the second injection of protein. The symptoms usually begin before the injection is completed and death occurs in from two to ten minutes. Thus far, eight strains of virulent pneumococci have yielded this highly toxic substance. Early the extracts are only slightly toxic to normal animals, but very toxic to animals sensitized with extracts of pneumococci. At the end of from twenty-four to forty-eight hours at 37 C. (especially if ether has been added) or from four to ten days in the ice-box (without ether) they are very toxic to normal animals, but only moderately or not at all to sensitized animals, while still later they become quite harmless to both normal and sensitized animals. It makes no difference whether the cocci are washed or not, whether grown in broth or on blood-agar slants. Nonvirulent pneumococci, which as a rule contain little or no autolytic ferment, heated virulent pneumococci and pneumococci killed with formaldehyd solution or bichlorid of mercury fail to yield any toxic substance for normal guinea-pigs. The toxic property of extracts of virulent pneumococci is destroyed largely on heating to 60 C. for half an hour and wholly on boiling for ten minutes. Digestion with serum, with leukocytes or with trypsin at 37 C. for eighteen to ninety-six hours also destroys the toxic power. A similar toxic substance is obtained at a certain period in broth, and especially in serum broth, cultures of virulent pneumococci. Here especially and less so in the NaCl solution extracts, the toxicity is greatest when proteolysis as determined by the formalin titration method has reached a definite point.

From consideration of the results and from a comparative study of the effect of extracts in NaCl solution and of the anaphylotoxic substance obtained by the interaction of pneumococci (antigen), immune serum (amboceptor), and normal serum (complement), and by normal serum alone on pneumococci it seems certain, first, that pneumococci, and hence probably other bacteria furnish at least a part of the anaphylotoxic substance when treated with amboceptor and complement *in vitro*, as well as *in vivo* when injected into previously sensitized animals, and second, that the symptoms in pneumococcus infections may be due to this highly toxic substance. The finding of this toxic property of extracts of pneumococci has another important bearing. Based on studies of anaphylaxis a number of investigators conclude that bacterial intoxication is possible only after certain antibodies have been formed which now attack the infecting bacteria and convert their relatively harmless bacterial proteins into highly toxic products. That this may be the case in many infections is supported by clinical observations. But in view of my results and other facts, it seems certain that at least some strains of virulent pneumococci possess all the essential properties to produce disease forthwith.

A fuller report of this study will appear in a forthcoming number of the *Journal of Infectious Diseases.*

122 South Michigan Avenue.

EMPHYSEMA OF THE SKIN OCCURRING DURING LABOR

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Emphysema of the skin is of rare occurrence, especially as a result of violent straining during labor. It has been known to occur from excessive vomiting or paroxysmal attacks of coughing, which caused a rupture of the pulmonary alveoli with the escape of air into the subcutaneous tissues. The case here reported is the only accidental complication of its kind that has occurred in the Sydenham Hospital.

The patient is a primipara, 20 years of age, a shop-worker by trade, admitted in labor into the maternity wards of Sydenham Hospital at 7 a. m., March 21, 1911. There was a three-finger dilatation of the cervix, head engaged (R. O. A.), membranes unruptured, heart sounds audible in the right lower quadrant anteriorly. A vaginal septum ¼ of an inch thick, extending from a point just below the meatus urethræ and disappearing into the fourchette, completely divided the orifice. The pelvic diameters were normal, measuring respectively, external conjugate, 20 cm.; diagonal conjugate, 10.5 cm.; interspinal, 22 cm.; intercristal, 26 cm.; anteroposterior at the outlet, 9.5 cm.; transverse at the outlet, 7.5 cm. The temperature was normal; catheterized specimen of urine negative.

At 2 p. m. the same day the membranes ruptured, pains became more frequent and as the presenting part was dilating the vulvovaginal orifice and stretching the septum in advance of it, the patient made excessive efforts to overcome this obstruction. Spontaneously with her straining a swelling suddenly appeared on the right side of her neck and around the angle of the lower jaw, gradually covering the face on that side, distorting it and closing the eye completely. By the time the septum had been broken through and delivery of the child was accomplished, the swelling had extended to the root of the neck and upper part of the chest with a distinct line of demarcation. Complicating this, as a result of violent straining, there was a prolapse of the cervix outside of the vagina which, after the placenta was expelled, was replaced and retained by a vaginal pack. This degree of prolapse is rare in primiparæ. This patient was in labor sixteen hours.

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* From the Memorial Institute for Infectious Diseases. This work was aided by a grant from the American Medical Association.

On examination of the swelling, a cushiony feeling with a distinct crackling sensation was imparted to the fingers over the entire area. There was no redness, pain or tenderness accompanying it, but there was some dyspnea and a slight cyanosis. No wound of the face or mouth was perceptible and laryngoscopic examination of the throat showed everything normal, rupture probably having taken place at the apex of the right lung with a burrowing of air in all directions. Percussion produced a tympanic note over the swelling on the upper part of the chest, palpation, a decrease of tactile fremitus, and auscultation, distant breathing and fine crepitant rales. The patient was left alone and the swelling gradually subsided day by day until it had entirely disappeared at the end of the tenth day, when she was discharged. Normal temperature persisted throughout; the catheterized urine was still negative and breathing on that side more distinct.

220 East Twelfth Street.

[Comment.—Emphysema of the skin occurring during labor is rare. Kosmak in the *Bulletin* of the Lying-in Hospital of New York in March, 1907, collected reports of seventy-seven cases from the literature since 1791. In Dublin there were only seven cases in 13,478 labors. The complication is found almost always in primiparæ. Like the case described above, the swelling generally begins in the face and spreads to the neck. In many of the cases tenderness and dyspnea were more prominent. No anatomic explanation of the rupture of the air cells was found in any case. The emphysema began generally with severe bearing down pains.

The prognosis is always good, the swelling disappearing in from a few days to several weeks. The treatment is symptomatic and expectant.—Ed.]

REMOVAL OF AN OPEN SAFETY-PIN FROM THE TRACHEA BY UPPER BRONCHOSCOPY

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The inhalation of an open safety-pin is a sufficiently rare accident to warrant the following brief report, and with one possible exception, the removal of an open safety-pin from the trachea by any other than a cutting operation seems not to have been mentioned in the literature.

Patient.—A. S., a girl of 13 years, was referred to me by Dr. John Hoskins, Chester, Pa., May 8, 1911, with a history of having "swallowed" a safety-pin on the preceding day, while laughing with some of her friends.

Examination.—The doctor reports having seen the child a half hour after the accident and having found her in a very nervous state, with slight aphonia, but suffering no pain or other inconvenience. The patient thought she could feel the pin just below the larynx in the region of the cricoid cartilage; but Dr. Hoskins failed to locate it by means of the laryngoscopic mirror. Thinking that it was probably in the esophagus, he then resorted to various emetics, but the resultant vomiting failed to dislodge the pin. The child was then put to bed and on the following morning she was taken to the hospital, where another unsuccessful attempt was made to locate the pin by means of reflected light, and to remove it by means of esophageal forceps. A skiagraph was then taken, and the patient referred to my department by the visiting surgeon, Dr. H. M. Hiller. I immediately examined the patient by means of reflected light and the laryngoscopic mirror, and I thought I could see the head of the pin about a half or three-quarters of an inch below the glottis, but I could not be sure. The skiagraph indicated that the pin lay in an antero-posterior plane, however, and this seemed to indicate its lodgment in the trachea rather than in the esophagus, because (as has been pointed out by Dr. Chevalier Jackson and others) the plane of an open safety-pin in the esophagus is usually in the lateral position.

Having no bronchoscopic instruments at hand, and the patient being comparatively comfortable, with the exception of a slight sensation in the trachea during occasional spells of coughing, it was decided to put her in bed again until the necessary instruments could be obtained, and other preparations made for securing the pin.

Removal of Pin.—On the following evening, the patient was chloroformed and the Jackson bronchoscope passed into the trachea in the usual manner through the laryngoscope. The projecting, flat, square head of the pin almost immediately came into view, and by means of the special instrument, devised originally, I think, by Dr. Algernon Coolidge, Jr., of Boston, the distal spiral end of the pin was engaged in the ring and pushed down and the pin was closed with the forked probe.

When, however, an attempt was made to withdraw the bronchoscope and the inclosed instruments with the pin attached, it was found impossible to do so, and thinking that the obstruction might be due to some twisting of the pin and to a possible tugging on the tracheal wall, but little force was used. I then decided to withdraw the two instruments in the tube, first the pin-pusher, and then the ring instrument, and to our great gratification, the pin came through the tube on the end of the ring. It was under slight pressure, however, so that it snapped off the ring on the floor before we could get any definite knowledge as to how it was engaged in the instrument. It was then with considerable difficulty that the glottic spasm was overcome and the tube removed from the larynx.

Subsequent History.—The patient took the anesthetic well, and with the exception of slight reflex spasms of the respiratory muscles, notwithstanding occasional applications of a 20 per cent. solution of cocain to the tracheal wall, no unusual difficulties presented themselves. A hypodermatic injection of two hundredths of a grain of atropin before the operation served to check secretions at the end of the bronchoscope, so that an aspirating apparatus was unnecessary.

Barring a little tracheal catarrh for a few days, the patient had no after effects that could in any way be referred to the presence of the foreign body, or to the measures employed for its extraction. She lost no blood in the operation, nor was there any tinge of blood in the two or three days of slight cough and expectoration which followed.

1627 Walnut Street.

STUDIES ON PYOCYANEUS IMMUNITY

WITH SPECIAL REFERENCE TO THE THERAPEUTIC VALUE OF VACCINES *

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Inoculations with dead, attenuated, and even fully virulent bacteria, and extracts of their cells, have been employed to some extent as prophylactic and curative measures in combating the ravages of certain infectious diseases during the past thirty years. In spite of the accumulated experimental evidence demonstrating the value of these agents in inducing immunity, however, their employment was not widespread and, with the exception of an occasional wave of interest sweeping over the medical world and soon becoming quiescent, comparatively little attention was directed toward this phase of therapeutics by the practitioner.

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* From the Laboratory of Hygiene; Dr. A. C. Abbott, Director.

This state of affairs existed until Wright, after years of arduous experimentation, advanced a new theory regarding immunity, namely, the opsonic, and advocated the employment of bacterial vaccines in the treatment of certain infections and, with other investigators, as prophylactic measures against other diseases, advancing at the same time an extremely ingenious method of controlling the inoculations by determining the opsonic value of the serum. Here, at last, was something tangible as regards when, where and how to employ bacterial vaccines as therapeutic agents and the attention of the profession was attracted; numerous articles on the clinical phase of the subject appeared; bacterial vaccines were placed on the market by enterprising manufacturers, and these agents were employed at one time or another in treating the majority of bacterial diseases, frequently with little knowledge or forethought on the part of the physician as to the nature of the disease or the organism responsible for its existence.

The therapeutic employment of bacteria and their products in combating infections had not, up to this time, by any means kept pace with scientific experimentation; while, as regards the opsonic theory and the employment of Wright's vaccines, the reverse is true. Scientific research has not kept pace with the attempts on the part of numerous practitioners to cure, by the use of vaccines, various forms of infection, the specific cause of which is known; failing to realize that immunity is of various types, and that certain infections are of such a nature that little or nothing can be expected from the use of vaccines.

Among the infections in which vaccines have been employed as therapeutic measures are those in which the *Pseudomonas pyocyanea* (*Bacillus pyocyaneus*) is concerned either as the primary cause or as the secondary invader of a process primarily due to some other organism. There are decided variations of opinion among those who have employed pyocyaneus vaccine regarding its value. Some claim to have obtained excellent results; others are of the opinion that the vaccine is of little or no value; while still others are non-committal.

I have employed vaccines in treating local infections in which this organism was present, but have never observed improvement in the condition that could be attributed to their action, and, have, on several occasions, made the statement that pyocyaneus vaccine, so far as personal experience went, appeared to be of no value. This statement occasioned some adverse criticism, and the following research was undertaken with the object of determining if possible, by animal experimentation coupled with clinical experience, whether or not vaccines could rationally be expected to exert a curative action on pyocyaneus infections. In this work, as was anticipated, some difficulties were encountered. When one considers the fact that the infections produced by this organism, as compared with those due to many other bacteria, are infrequent, it would seem that their consideration was of less importance than problems relating to other subjects; yet the attention attracted by, and the severity of such infections in many instances, together with the differences of opinion regarding the value of vaccines, raises the problems to a sufficient degree of importance to warrant a somewhat extended investigation in attempting to decide the questions raised.

This organism, first isolated by Gessard, is widely disseminated and varies markedly in its pathogenicity; some strains having very slight, if any, pathogenic properties, being often present apparently only as harmless saprophytes; other strains possess a greater or lesser degree of virulence, some being so highly virulent as to cause death in a very short time after the tissues are invaded. It is usually found in local infections, in some cases as the primary causative agent, but more often as a secondary invader of a condition primarily due to some other organism. The organism may gain access to the general circulation and bring about, by the action of their toxic products, either a septicemia or a pyemia.

These general infections, while not common, are of great severity, usually terminating in death. Such infections are usually seen in individuals whose resistance has been lowered by some metabolic disturbance due to other causes—in other words, some systemic condition in which the normal defenses of the body have been decreased.

Waite[1] reports two interesting cases of general pyocyanic infection, and gives an excellent summary of the various conditions in which the organism under consideration is found, together with references to the literature on the subject.

Different strains of the organism likewise vary in the degree of pathogenicity toward the lower animals; some apparently exerting no detrimental influence on the animals of the laboratory, while others cause death in a shorter or longer period. Cultures grown on artificial media usually lose their virulence, to a great extent, within a comparatively short time. One may succeed in bringing about an increase in the virulence of some attenuated strains by passing them through a series of guinea-pigs; in other cases, the virulence is apparently lost.

The pathogenic action of this organism, as is well known, is not due to one, but to several toxic substances; which fact must be taken into consideration in the treatment of infections caused by its presence. Wassermann[2] demonstrated the presence of a soluble toxin which differs from the majority of toxins in its resistance to heat, 100 C. not rendering it inactive. He further concluded that an endotoxin was formed. These facts have been confirmed by others. Gheorghiewski[3] demonstrated a destructive action on the leukocytes, which he attributed to the action of a leukocydin.

This phenomenon is frequently observed in making opsonic preparations, especially with highly virulent and active cultures, and was an interfering element in our work, the counting of the bacteria in the leukocytes being rendered difficult by the fact that many of these cells presented a granular or disintegrated appearance. This was so marked in some preparations as to render their study of no value, and correct numerical estimations in these preparations were impossible. This difficulty was overcome by washing the organisms in salt solution, centrifugalizing, and employing for the suspension the sedimented bacteria. The phenomenon was at first attributed to enzyme action. It may have been due to a leukocydin. Extracts of the bacterial cells did not, in the few experiments made with them, bring about this change in the leukocytes, but old toxic filtrates exert a marked leukocytolytic as well as hemolytic action

The organism also contains a pyogenetic proteid (pyocyaneus proteid) which can be separated from the cell, and exerts marked positive chemotactic properties.

Immunity against the *Pseudomonas pyocyanea* is composite, as might be expected from the multiplicity of the toxic agents produced. Wassermann,[2] by immuniz-

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1. Waite, H. H.: Jour. Infect. Dis., 1908, v, 542.
2. Wassermann, A.: Ztschr. f. Hyg., 1896, xxii, 263.
3. Gheorghiewski: Ann. de l'Inst. Pasteur, 1899, xiii, 298.

ing with old sterile, toxic, bouillon cultures, produced an antitoxic serum which was active against the toxin and immunized to some extent against the living organisms; he also demonstrated the fact that the serum of animals immunized with the living organisms exhibited the agglutinative phenomenon,[4] but had very little or no action against the toxin. These results have been confirmed by others. He further claimed that the serum of such animals exerted a marked bacteriolytic action when injected with the organisms into the peritoneal cavity of normal animals, and that when the organisms were injected into the peritoneal cavity of immune animals this phenomenon was quickly manifested, but the serum of such animals did not exert a bacteriolytic action greater than normal serum in vitro.

Muller[5] states that he was able to demonstrate a bacteriolytic action *in vitro* under anaerobic conditions.

With the advent of the opsonic theory the opsonizing power of various sera was tested in relation to a large number of the known pathogenic species of bacteria, among them being the *Pseudomonas pyocyanea,* and, as will be seen in the following report, a marked increase in the opsonins can be brought about by actively immunizing animals with both living and dead organisms.

In the experiments made I failed to demonstrate a bacteriolytic action *in vitro,* under either aerobic or anaërobic conditions, more marked than with normal serum. In dealing with this phenomenon, the agglutinative action of the serum must be taken into consideration, as but one colony will be produced from a mass of agglutinated bacteria, although such a mass might contain fifty or more organisms capable of developing. It is offered as a suggestion that some of the conflicting evidence regarding the bacteriolytic action of immune sera is due to the fact that this factor did not receive due consideration. After some disappointing and conflicting results, glass beads were placed in the tubes of diluted serum employed for the purpose of demonstrating bacteriolysis, and the interference caused by agglutination eliminated by shaking. The same precedure was resorted to when working with the peritoneal exudates.

I failed to demonstrate the marked bacteriolytic action in the peritoneal exudate, as described by Wassermann, either in the peritoneal cavity of immune animals or normal animals injected with immune serum and bacteria; but did note a moderate exhibition of a process that simulated Pfeiffer's phenomenon, a marked agglutination and pronounced phagocytic activity. I am, therefore, forced to the conclusion that the principal factors in eliminating the organisms are agglutinins and opsonins.

Following the injection of the organisms into the peritoneal cavity, there is marked exudation of leukocytes. This is much more noticeable in immune than in normal animals, and in normal rabbits than in guinea pigs, the latter succumbing to the infection in a short time when a virulent culture is employed. Non-virulent cultures do not bring about this extensive leukocytic exudation, but there is evidence of both phagocytosis and agglutination.

Gheorghiewski[3] demonstrated this phagocytic and agglutinative phenomenon in the peritoneal fluids before the advent of the opsonic theory.

Following the injection of the organisms, both intravenously and intraperitoneally, there is a decrease in the number of leukocytes in the circulating blood, this being followed within a few hours by a marked increase, which is limited principally to the polymorphonuclears. The non-virulent organisms did not produce this phenomenon to any extent.

The animals employed in the majority of the experiments were rabbits. Some guinea-pigs were used, especially for the purpose of determining and enhancing the virulence of the different strains, and to study the phenomena following intraperitoneal injections.

Six different strains of the organism were employed, their characteristics being as follows:

Culture A.—Isolated from the oral cavity; cultivated on artificial media for four years; non-virulent for rabbits and guinea-pigs; an active producer of pyocyanin.

Culture B.—Source unknown; has been growing on artificial media for at least ten years; non-virulent for rabbits and guinea-pigs, and virulence could not be restored.

Culture C.—Isolated from suppurating wound on leg; low degree of virulence for guinea-pigs; non-virulent for rabbits; virulence was increased by passage through guinea-pigs.

Culture D.—Isolated from suppurating wound; highly virulent for guinea-pigs; killed rabbits in from five to seven days.

The other two cultures presented no features differing from A and B and were discarded after preliminary tests.

IMMUNIZATION WITH NON-VIRULENT CULTURES

The non-virulent cultures may be disposed of in a few words, for in no instance could the protective elements be increased in a noteworthy manner with the exception of the agglutinins; which, in the case of two rabbits, were increased sufficiently to agglutinate in dilutions of 1:400 and 1:500, respectively, the strain of the organism employed in the immunization, but would agglutinate the virulent culture (D) only in low dilutions. This is contrary to the results obtained with the serum of rabbits immunized with the virulent organisms; here the agglutination was approximately as great for the other strains as for that employed in immunizing; neither would the non-virulent strains or the old filtrates render animals immune to the action of the virulent cultures, the treated animals succumbing to the infection as soon as the normal controls.

IMMUNIZATION WITH VIRULENT STRAINS

A. Living Organisms.—In this series the organisms were cultivated on agar for twenty-four hours, suspended in salt solution, and rabbits immunized by injecting subcutaneously the fully virulent organism, at intervals of five days, beginning with a dose of 5,000,000 and gradually increasing to 100,000,000. The number of injections varied from four to ten. The first two or three inoculations produced some induration at the point of inoculation, but later doses apparently had no effect.

In these animals there was a primary fall in the opsonic index, never amounting to more than 30 per cent., followed by an increase amounting to, in the case of animals receiving eight to ten injections, from 80 per cent. to 100 per cent. After the first injection, following a primary decrease which persisted for a few hours, there was an increase in the number of leukocytes in the circulating blood. After an interval of from two to four days, these became normal; this phenomenon was not as marked following subsequent inoculations. The agglutinins were markedly increased, the serum of immune animals agglutinating in dilutions of 1:1200 and in one case over 1:1500. Two of these animals were later inoculated, ten days after the last injection: one into the circulation; the other, into the peritoneal cavity, with large doses of the virulent organisms. They survived the inoculations, showing no manifest symptoms. The opsonic index following the inoculation became somewhat depressed, but rose again after a few days. The agglutinins were not appreciably affected. The phenomenon appearing in the peritoneal exudate has already been mentioned.

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[4] Wassermann: Ztschr. f. Hyg., 1903, xlii, 267.

[5] Müller, Paul: Centralbl. f. Bakteriol., u. s. w., xxviii, 577 and 903.

B. *Immunization with Killed Organisms.*—Rabbits were given, at five-day intervals, eight doses of the organisms heated to 60, 65 and 75 C., respectively, for one-half hour. The serum of rabbits immunized with the vaccine heated to 60 and 65 C. was very nearly as active as that of those immunized with the living organisms; while the rabbits treated with vaccine heated to 75 C. exhibited but a moderate increase in either the opsonic or agglutinative elements. Those exposed to high temperatures were apparently inert.

Of the animals treated with the organism heated to 60 C. one was inoculated intraperitoneally and another intravenously with the same amount of culture employed in inoculating those immunized with the living organisms; both survived. Two immunized with organisms heated to 75 C. were inoculated in the same manner; both succumbed to the inoculation in fourteen and eighteen days respectively. Normal controls inoculated with the living organisms died in from five to seven days, showing the characteristic parenchymatous changes.

C. *Immunization with Extracts of Cells.*—The organisms were cultivated for twenty-four hours on agar, washed with salt solution, heated to 60 C. for one-half hour, and placed in the incubator, in salt solution, for four to five days, then well shaken and centrifugalized until the fluid became clear. This fluid contained the endotoxin liberated through autolysis of the organisms during the period of incubation. The serum of animals treated with these fluids agglutinated in dilutions of from 1:150 to 1:200. Normal controls did not exert the agglutinative function in dilutions of over 1:10 to 1:15. The opsonins were apparently unaffected, no evidence of either an increase or decrease presented. These animals succumbed to the action of the virulent organisms as quickly as did the normal controls.

D. *Immunization with Toxic Filtrates.* — Rabbits treated with from eight to ten doses of an old, sterile bouillon filtrate, beginning with 0.1 c.c. and gradually increasing to 2.0 c.c. showed no marked evidence of either opsonic or agglutinative immunity. There was some increase of the agglutinins, but in no instance did they agglutinate in a dilution greater than 1:100. These animals were rendered immune to large doses of the toxic filtrate.

Attempts to immunize rabbits with the pyogenetic proteid were made, but there was no demonstrable increase in either the opsonins or agglutinins. The animals so treated succumbed as quickly as normal controls to the action of the virulent organisms.

Two rabbits treated with pyocyanin showed absolutely no increase in protective substances; there was a transitory decrease in the opsonin content of the serum.

The injection of vaccine into animals inoculated intraperitoneally and intravenously with virulent organisms at no time exerted a beneficial effect, these animals succumbing as quickly as those not treated with vaccine.

Neither could I regularly demonstrate what might be called a marked beneficial action by injecting vaccine into rabbits inoculated subcutaneously with virulent organisms. In all cases the animals survived the inoculation, but so did the majority of controls inoculated with the same dose and treated with a corresponding amount of vaccine. It is true that in but one of the animals treated with vaccine did the local infection suppurate and form an abscess; while in three out of five controls suppuration, with abscess formation, was produced, from the effects of which they recovered in a few days. One control died from a general septicemia, while the other recovered from the inoculation with no further evidence of infection than a marked subcutaneous induration which gradually disappeared.

The question primarily under consideration now awaits an answer. It is not my desire to enter into a detailed discussion of the subject. The foregoing experiments, together with those of other observers, leave no doubt in my mind as to the multiplicity of both the toxic agents and the protective elements concerned in pyocyaneus infection and immunity.

There is no doubt of the fact that, experimentally, there is a marked increase in the opsonins and agglutinins produced by immunization, not only with the living organisms, but with the vaccine as well; this point, coupled with the fact that the leukocytes, not only in the peritoneal cavity, but also subcutaneously, exert a marked phagocytic action, leads one to consider that opsonic immunity is of much more import in connection with pyocyaneus infections than has been attributed to it up to date. This being the case, it might be expected that vaccine would be the rational agent in treating infections produced by the organism under consideration. When one considers the toxic substances produced, however, and the fact that the immunity is composite, in which at least three elements enter (antitoxins, agglutinins, opsonins), with evidence furnished by some in favor of a fourth (bacteriolysin), one may hesitate in expressing an opinion. It would seem that, even in local infections, the vaccine would not bring about sufficient stimulation of one or two properties (agglutinins and opsonins) to overcome, not only the organisms, but the effects of their toxins, which we cannot hope to render inert by injecting vaccine into the tissues. This toxin is evidently an important factor in pyocyaneus infections. Active antitoxic sera have been produced, and it would appear that the rational procedure would be to employ such serums in conjunction with vaccine; but here difficulties arise, which so far have interfered with the production of antitoxic serum in sufficient quantities to be of value as a therapeutic agent.

The fact that the vaccine will not regularly exert a curative action on infected rabbits is noteworthy, but must not be considered as a condemnation of these substances; that they do exert such an action to some extent in local infections is important. The fact that they have apparently no curative action when the organisms are injected into the peritoneal cavity and circulation only bears out what seems to be the opinion of the majority regarding the bacterial vaccines in general; i. e., that their value in the treatment of general infections is limited. I saw no evidence in animals suffering from a general infection that could lead to the conclusion that the vaccine had exerted a detrimental influence. As the course of such infections may be hastened by the injection of a very small amount of toxin, vaccines should be employed with care. They should be prepared from twenty-four hour agar cultures freed from pyocyanin and any toxin by washing in salt solution, centrifugalizing, and utilizing the sedimented bacteria in preparing the vaccine. If such vaccine be employed it should always be prepared from the strain of the organism causing the infection, as non-virulent strains will not confer immunity; not only should those possessing no virulence when isolated be avoided, but also those in which the virulence has been reduced by continuous existence on artificial media.

SUMMARY OF RESULTS AND CONCLUSIONS

1. A marked increase in both the opsonic and agglutinative elements can be induced in the animal economy by the injection of vaccine as well as living organisms. Therefore, employment of vaccine in treatment of local pyocyaneus infections would appear rational.
2. However, there is also a toxin produced by the organism under consideration, the action of which manifestly cannot be counteracted by the use of the vaccine.
3. Should one decide to employ vaccine in treating these infections, such vaccine must be prepared from the organism concerned in the individual infection under treatment, and never from strains that have been cultivated on artificial media for a number of generations. These organisms soon lose their virulence under artificial cultivation and at the same time, at least to a great extent, their power of conferring immunity.
4. Bacteriolytic elements could not be demonstrated *in vitro* under either aerobic or anaerobic conditions.
5. The phenomena appearing in the peritoneal cavity of guinea-pigs and rabbits, following the injection of the organisms, are apparently essentially agglutinative and opsonic (phagocytic); but little evidence presented to confirm the statement to the effect that there is an active bacteriolysis.
6. Old toxic filtrates or extracts from the cells produce little or no increase in the agglutinative and opsonic functions; but the toxic filtrates do produce a high degree of immunity against such filtrates.

A CASE OF RAYNAUD'S DISEASE

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It is estimated that there is about one case of Raynaud's disease among every thousand patients sick from all causes. The disease is, therefore, somewhat rare, and the following case is especially interesting because of its unusual severity, both with respect to the gangrene and the accompanying nervous symptoms.

Patient.—E. J. C., a white man, was a farmer, aged 30, with good habits and no history of syphilis. His father is an alcoholic and his mother a syphilitic. About two years ago, while in good health, patient had a sudden dry gangrene of the tips of his right fingers, developing in a few hours. No exciting cause, as cold or emotional disturbance, was noticed, neither were any preliminary stages of pallor and cyanosis, but the patient was a poor observer, ignorant and unreliable. The attack was followed by sloughing of the necrotic tissue, but before the fingers were healed the gangrene reappeared, attacking the fingers higher up, so that two or three had to be amputated. Then patches of gangrene appeared on the hand, and after a time it was amputated. Gangrene and amputation followed each other up the arm until, after five or six operations, only the upper third of the upper arm remained. Then two finger-tips of the left hand became gangrenous but healed spontaneously, leaving scars. About this time three gangrenous areas, each about the size of one's little finger, appeared on the front of the chest, below the right nipple; these healed, leaving red, angry-looking scars. The left great toe was also affected and a slight scar produced. Then, last of all, the posterior surface of the left hand was attacked. At bed-time, April 13, 1911, he felt a burning, stinging sensation of this region, and, from previous experience, knew what to expect. He went to bed and to sleep but was awakened at 3 a. m. by terrible pain in his hand, which he found necrotic and black over part of the posterior surface. He hurried to a hospital, where we saw him for the first time.

Physical Examination.—The patient appeared to be a well-developed, muscular young man with a florid face. The scars noted above were seen. Thoracic and abdominal organs were negative; arteries normal. One undescended testicle had been removed; the other testicle was in the scrotum but undeveloped. The mental state was one of extreme depression; the patient wept freely and begged that his hand be saved. But at the same time he rather overacted and seemed to court sympathy and interest in his case. The gangrenous patch was on the inner half of the posterior surface of the left hand. It covered about four square inches, was irregular in outline with sharply defined borders, was black and dry, and reached down the dorsum of the three inner fingers. On the middle and ring fingers it was limited to the proximal phalanx, but on the little finger extended to the nail. The tips of all the fingers were healthy. The healthy skin on the back of the hand was of a dusky hue. The urine was normal, except for the presence of uric acid crystals; blood was also normal.

Course.—Twelve hours later the gangrene had extended an inch toward the wrist, but there it stopped and never spread further. The necrotic tissue after a few days was dissected off (it was very superficial and still dry), and the wound began to heal by granulation with unusual rapidity. The nervous symptoms from the date of entrance, April 14, until the date of death, May 26, were spectacular. Six times the patient was suddenly seized with a total motor and sensory paralysis, at which times he was wholly insensible to painful stimuli. During the attacks he could not speak above a whisper. The average duration of these attacks was about twenty minutes, and they always left as suddenly as they had come. Twice he became totally blind; he remained so once for twenty-four hours and once for forty-eight hours. Ptosis was present most of the time. His commonest symptom was epileptoid attacks. These were not attended by loss of consciousness, were very painful and consisted of spasm of all the flexor muscles, drawing him forward into a bow. Retention of urine was present for three days. Several times he became delirious, but each time the delirium, after several hours, left him suddenly and completely. Much of the time a coarse tremor of the legs was present. Motor aphasia came and went several times, independent of the paralytic attacks. The face was usually flushed, the appetite poor, the bowels constipated. Pain was present most of the time and was excruciating. It was referred to the occiput, the spine, the stomach, the bladder and the gangrenous little finger. These pains were only partially controllable by large doses of morphin. Mentally, the patient remained depressed, even in despair. He was, nevertheless, fond of talking about himself and his disease, boasted of the operations he had been through, hinted that he ought to be exhibited to the medical society and seemed generally inclined to play for sympathy. He was very suggestible; the epileptoid attacks could sometimes be brought on by talking of them, and hypodermic injections of sterile water often relieved his pains. But his pain was frequently genuine, and finally, after several days of great suffering, the pain being in the head and bladder, the patient died, presumably from exhaustion.

Only a partial autopsy could be obtained. The organs of the chest and abdomen were found normal, but the brain and cord were not examined.

Most of the above symptoms may be found in the books as occurring in severe cases of Raynaud's disease, and they may be explained on the grounds of localized, temporary anemia occurring in various regions of the brain or in other parts of the body. For instance, angiospasm of the skin causes gangrene; angiospasm of the retina, transitory blindness; angiospasm of the walls of the intestine, colic. The relation of hysteria to Raynaud's disease is discussed by the neurologists; there certainly was in this case, as in most others of this disease, a hysterical element, and without the gangrene the clinical picture would have been one of hysteria major.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

SCARLET R MEDICINAL, BIEBRICH.—Rubrum Scarlatinum.—Scarlet R Medicinal, Biebrich, is amido-azo-toluol-beta napthol, $CH_3.C_6H_4.N:N.C_6H_3.CH_3N:N.C_{10}H_6.OH$.

Scarlet R Medicinal, Biebrich, is a dark brownish red powder, nearly insoluble in water, slightly soluble in benzene and acetone and easily soluble in chloroform, oils, fats and phenols. It is slightly soluble in cold alcohol, somewhat more soluble in hot alcohol, while warm petrolatum and paraffin dissolve rather large quantities. When heated to 175° it softens, begins to melt at 181°-188° and at 260° swells up and decomposes. Further heating yields heavy brown, aromatic vapors, which burn, leaving a difficultly but completely combustible residue. The saturated aqueous solution is a clear scarlet red color, which on dilution or in thin layers has a bluish tinge. It is decomposed by nitric acid.

If about 1 mg. of Scarlet R Medicinal, Biebrich, be sprinkled on about 1 Cc. concentrated sulphuric acid it will dissolve in the acid with a bluish-green color, which, on diluting with water, changes consecutively to blue, then to purple and finally red. After a time a brown flocculent precipitate gradually forms.

If to a small quantity of Scarlet R Medicinal, Biebrich, a few Cc. alcohol and 2 drops of concentrated hydrochloric acid be added and the mixture boiled the solution will take on a purple color. This solution on the addition of a few drops of glacial acetic acid becomes scarlet red. If not too small a quantity of the substance was taken it will crystallize out of the acetic acid solution in the form of fine needles.

If about 0.5 Gm. Scarlet R Medicinal, Biebrich, be heated to boiling with ⅔Cc. acetic acid and then, while boiling, zinc dust be added, the solution will become colorless. A bluish color appears on exposure of this solution to air.

Actions and Uses.—Scarlet R Medicinal, Biebrich, is claimed to have a marked power of stimulating the proliferation of epithelial cells.

It is said to be useful to promote the growth of epithelium in the treatment of burns, wounds, chronic ulcers, etc.

Dosage.—It is generally used in the form of an ointment containing 4 to 8 per cent. of the substance.

The surface to be treated is first thoroughly cleaned with warm water and soap and then dried. The ointment is then applied lightly. In ulcers it is spread very thinly over the surface, from the skin edge inward, unless it be very large, in which case the ointment is applied around the edges only. The application may be left undisturbed for two or three days, after which time, and for a similar period, some bland ointment can be used.

Manufactured by Kalle & Co., Aktiengesellschaft, Biebrich a. Rh., Germany (Heilkraft Medical Co., Boston, Mass).

Not patented or trademarked. Sold in the form of ointment only. See below.

Scarlet R Salve.—Scarlet R Salve is a mixture containing Scarlet R Medicinal, Biebrich, Kalle & Co., 8 parts, eucalyptol 2 parts and petrolatum 90 parts.

Prepared by the Heilkraft Medical Company, Boston, Mass.

HORMONAL.—Peristaltic Hormone-Zuelzer.—Hormonal is a liquid extract obtained from the spleen of an animal killed at the height of digestion.

It is prepared by killing the animal, e. g., a guinea-pig, at the time when its digestive process is at the highest point. The spleen is removed, macerated, pressed or extracted with physiologic salt solution or diluted hydrochloric acid. The pressed-out liquid or the neutral extract is then filtered under aseptic precautions.

Hormonal is a yellowish liquid which is often turbid, but the slight flocculent precipitate does not appear to affect its efficiency.

The liquid seems to be stable for at least a year when protected from the light.

Actions and Uses.—It is claimed that the peristaltic hormone has the property of exciting the peristalsis of the intestine and provoking the evacuation of the feces.

It is claimed that Hormonal is useful in the treatment of chronic constipation and as a means of relieving paresis of the intestine in peritonitis and after operation. A prophylactic injection at the time of operation on the abdomen is claimed to be a rational procedure. Its use is still in the experimental stage.

Dosage.—20 c.c. (5 fluidrams) with proportionate doses for children are given by injection, either intramuscular or intravenous.

Manufactured by Chemische Fabrik auf Actien, vorm E. Schering, Berlin, Germany (Schering & Glatz, New York) German patents Nos. 229,168, and 229,169. U. S. Patents applied for.

Hormonal Intramuscular.—A preparation of hormonal containing 0.25 per cent. of beta-eucaine hydrochloride and 0.4 per cent. of trikresol in brown bottles, each containing 20 Cc. intended for intramuscular injection. The injections are sometimes painful, in which case another site should be chosen. The injections are always followed by a rise of temperature. The date of preparation is given on the packages.

Hormonal Intravenous.—A preparation of hormonal containing 0.4 per cent. trikresol furnished in blue bottles for intravenous injection. This is claimed to be useful, especially in cases of intestinal paresis and postoperative ileus. The date of preparation is given on the packages.

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

Change of Formula

The manufacturers have revised the formula of Supracapsulin Inhalant by the omission of chloral, substituting for the formula in N. N. R. 1911, page 81, the following.

Supracapsulin Inhalant.—A solution 1:1000 of supracapsulin in an aromatized neutral oil, containing approximately 10 per cent. of alcohol.

Therapeutics

HEADACHES

This most frequent complaint is due to so many causes, is so mistreated when the etiologic factor is not discovered, is so patiently tolerated by a part of mankind, is so impatiently borne and so maltreated by the majority of mankind, and is such a revenue for patent medicine venders, that a better understanding of the condition is imperative.

Half the battle is won in the eradication of a troublesome symptom when the etiologic factor has been discovered. A symptom can be suppressed or combated without a diagnosis, and when a diagnosis has been made of the cause, it may not be possible to remove this cause, but in this case at least a prognosis can be offered, which is the top round of the therapeutic ladder.

The causes of headaches may be divided into several large classes: (1) toxic, (2) circulatory, (3) local, (4) reflex.

TOXIC
- Fever
- *Auto-intoxication*
    - *Intestinal*
    - *Kidney insufficiency*
    - *Liver insufficiency*
    - *Thyroid disturbance*
- *Drugs*

CIRCULATORY
- Valvular disease
    - *Venous congestion*
- Plethora
- High tension
- Arteriosclerosis
- Anemia
- Leukemia
- Lung consolidation
    - Diminished aeration

LOCAL
- Eye inflammations
- Frontal sinusitis
- Ethmoiditis
- Ear *inflammations*
- Meningitis
- Exudates into the ventricles
- Changes in the cerebral vessels
- *Tumors*
- Syphilis

REFLEX
- Eye-strain
- Nasal disturbances
- Aural disturbances
- Facial neuralgias
- Uterine displacements (?)

In the majority of the above conditions the headache is only one of many symptoms, and often is not the thing complained of or the symptom for which the patient comes for treatment. Correction of the general disturbance almost always relieves the headache, and this is true of the headache due to any of the causes in the first and second classes. Anything that removes or corrects the condition in the third class stops the headache.

It is in the fourth class that a failure of diagnosis of the cause is most frequently made, and it is this class that constitutes about 90 per cent. of all cases of headache that come to the physician. In about 10 per cent. of all of these headache patients the cause can be attributed to the nose, teeth, ears, uterus (if there is such a cause of headache), and tic douloureux. In the other 90 per cent. the cause is eye-strain, or eye defect, or ocular trouble in some form. It is for these eye headaches that multiple combinations of acetanilid and other coal-tar products exist. It is on account of these headaches that patent medicine men get rich, that our drug-store counters are covered with nostrums, and that various caffein soda-fountain drinks are offered. It is on account of these headache preparations that many patients, ill with serious disease, are found to have weak hearts, poor nutrition, are perhaps anemic, and have poor recuperative power. These patients will not suffer pain, and even if they would, they must get help to keep about their work. Therefore, the question is, what are we physicians going to do about it?

EYE-STRAIN REFLEXES

The most constant condition caused by eye-strain is, of course, the headache. This headache may develop slowly or rapidly, may be centered in one eye, one side of the forehead or one side of the head, or may be referred to both eyes. In fact, there is no part of the head that may not ache from eye-strain. Very frequently, however, one eye is more likely to be affected than the other, as one eye is likely to be unlike the other eye and be more defective than the other eye. Astigmatism and far-sightedness, or both, are the most frequent causes of eye-strain headache. Weakness of the ocular muscles is another cause.

The pain is perhaps most frequent in the supra-orbital region, but is often in the temple, and may be frequenty referred to the inner angle of the eye, especially if there is astigmatism. It perhaps occurs very frequently in this region on account of the overactivity of the superior oblique muscle which endeavors to overcome an astigmatic affection. Headaches from defective vision from any reason, and especially when a person becomes presbyopic and has not glasses to correct it, or at least has glasses that are insufficient to correct it, are more likely to be in the occipital region. Such headaches most frequently occur in the early morning, and are discovered by the patient on awaking.

Eyes that are defective as ocular instruments are likely to be inherited; certain kinds of eyes appearing in different members of the family, the children suffering the same defect from which the parents suffered. Such children are likely to have the headaches begin at any age, but perhaps more frequently after a year or more of school work. These headaches are likely to come periodically, perhaps once a week, perhaps once in two weeks, perhaps only once a month, but with a constant tendency to become more frequent little by little. They sooner or later become a megrim, or migraine, which is typically a headache for a number of hours followed by nausea, vomiting, prostration, sleep, and recovery.

The title given to most of these headaches by the laity is "a bilious attack," and the cause is attributed to overeating, eating at night, eating indiscriminately, or is attributed to particular kinds of food, which, if the patient is old enough to decide for himself, are gradually removed from the diet, until almost every kind of food and drink is subjected to more or less suspicion. He then attributes his trouble to his liver, or finds serious fault with his stomach. If he is constipated, he lays it to that, as he finds that after free catharsis, or at least after such a length of time as a cathartic will generally act, the headache disappears. He, therefore, thinks it is due to constipation. Girls and women with these eye defects are more likely to have headache before or during menstruation, and they attribute it to that function. Others learn that they get these headaches when they are overtired mentally or physically. Some soon learn to become suspicious of their eyes on account of having the headache after theater-going, card-playing, car-riding, shopping, sewing, or reading too long, or, if they are office clerks, after an extra amount of proof-reading or of mathematical work.

After the headache habit has once been formed a neurotic element enters into it, and there is likely to be a cyclical headache, even if the eye defect has been corrected, so that a patient who has the headache habit thoroughly formed will always have them more or less, at least until the eyes become presbyopic and focusing for near objects has almost been abolished. It is also true that neurotic patients who are subject to high tension and nervous irritabilities are more likely to have headaches from slight eye defects than are more calm and less nervous individuals.

That these eye defects with their headache sequences are on the increase, is perfectly logical from the overuse of the eyes in the civilized community of to-day. The young child, instead of playing by itself, is shown figures, pictures, objects to put together; and finally come the ill-judged kindergarten eye propositions; it is all eye work, some of it very injurious eye work. Then comes the school with its enormous amount of objective teaching, and only a certain proportion of knowledge is now acquired by quiet personal study, or is acquired through the ears. The major part of education is now pushed in through the eyes by more or less distant object, diagram and picture teaching. To show the modern use of the eyes and their need for light one has only to look at the school buildings of to-day, whose whole sides are windows; to note the enormous amount of light which we all require to do any evening work; to note the excessive glare of light which we like and have become accustomed to as compared with what was called light fifty or even twenty-five years ago. We should also note the greater number of hours that even children, to say nothing of grown people, are up and alert, with eyes never at rest, as compared with those which our grandparents spent in that way.

We are now going one step farther; more eyes must have glasses, and more young eyes must have glasses, and the glass now must be better than it ever was; we must have toric lenses, and those of us who need a bifocal glass must have it ground into one lens so as to have no disturbance whatsoever of almost perpetual vision.

Another cause of eye-tire is the excessive speed of objects to-day. In other words, with the advance in science and civilization, it seems to be the eye that is the part of our bodies that suffers the most.

Like everything else in modern life, the supply must meet the demand, and one has but to count the ever-increasing number of opticians to realize that the world needs glasses. Unfortunately the world does not realize the delicateness and the wonderful constitution of its eyes; therefore, a large part of the world thinks that any optician, traveling or otherwise, can fit eyes to suitable glasses. All the patient is asked to decide is whether he sees better or worse with this or that lens. Undoubtedly an enormous amount of serious damage is done to eyes by ignorant opticians.

It is a mistaken idea, both of physicians in general and of the laity, that optical determinations by oculists are infallible. I do not know of any class of medical work that requires more patience and more good judgment than the decision by an oculist as to just what lenses a person with defective eyes requires. In the first place, the patient is more or less unable to determine accurately when or how he sees the best. In the next place, when the eye is made as immobile as possible with homatropin or some other paralyzant, still there is sufficient mobility to impair accurate judgment as to just what sort of optical instrument the eye is. Even if the defect is absolutely determined, it is then a question of judgment as to whether to give the whole correction, two-thirds the correction, or half the correction to the individual patient. Under any circumstances, he must get used to his lenses, and the eyes will but gradually, except in some instances, accept the help that is given them, and the patient quickly believes that the glasses are wrong. Therefore, the oculist's work is not an exact science any more than is the work of the internist. A patient may go from one oculist to another, and each time receive different lenses; one patient, for instance, went to five different first-class oculists and received five different kinds of lenses. The physician is more to blame than is the patient for the latter's not persisting in going to the same oculist until the lenses suit his eyes. This is much better than to go from one man to another. If every time the internist failed to improve his patient, the patient went to another physician, how sorry would be our practice!

One more fact should be impressed on the patient, and that is, that if an oculist tells him he has astigmatism, the glasses must be frequently adjusted. They must be absolutely straight to correct the meridian of the eye that is abnormal.

A fact that should be impressed on oculists is that a small defect, sometimes so slight that the oculist feels that the patient does not need lenses, may cause more reflex trouble than a serious defect. Also, the amount of trouble that will be caused by an eye defect depends on the individual; nervous, high tension, or neurotic patients have much more reflex trouble than do more phlegmatic individuals, or those who may not be doing high-tension work.

All physicians now more or less recognize recurrent headaches as due to eye-strain, but a large number do not recognize that the patient may have stomach and heart reflexes without headache, and still due to eye defect. Dizziness, gastric indigestion, even nausea and vomiting may occur without any headache whatever and still be due to eye-strain. Cold hands and feet, chilly sensations, faint feelings, palpitation, and irregular heart and pain referred to the cardiac region so as to cause the patient to believe he has heart disease, may be due to eye-strain and be corrected by correcting the eye defect.

If a patient comes to the physician with a headache, or wants to know what he shall do when he has his next headache, what shall we give him? It is often unwise to give him a prescription. Whatever the sedative prescription contains will be repeated and used indefinitely. It is better to give the patient some tablets from the office or from the pocket case, made according to a formula which is satisfactory to the individual physician.

There is nothing more likely to help this kind of headache than acetanilid, and the dose is not necessarily large, and it is well to combine it with bicarbonate of sodium. While caffein adds to the toxicity of the coal-tar product, caffein has a useful action in curing a headache of the eye-strain class. If much of a dose of a coal-tar product is given, the patient should lie down for several hours, if possible. Otherwise, the cardiac depression caused by the eye reflex plus the depression caused by the coal-tar drug will produce faintness and more or less temporary debility. While acetphenetidinum (phenacetin) is perhaps a safer coal-tar drug to use, the dose must be so much larger than the acetanilid dose that the depression is about the same. With some patients antipyrin works the best. With other patients a brisk catharsis is advisable. Some find cold to the head of advantage, although with many it causes nausea. Others find hot applications satisfactory. Sometimes a hot foot-bath will change the circulation sufficiently to relieve the head congestion. Some patients are cold, and some feel hot, and the circulation on the surface of the body is likely to vary depending on the intensity of the pain or the occurrence of nausea.

It is sad to adopt any opium treatment for these headaches. On the other hand, one is often driven by the very intensity of the condition to the limit of medical resources, and sometimes cardiac depression is so serious that it becomes a question of either morphin or large doses of alcohol. Patients who have these terrible megrim attacks frequently cannot well stand coal-tar products so often repeated, as, unless the dose is enormous, the result of their administration is nil. A morphin habit and an alcohol habit, to say nothing of the frequent acetanilid habit or caffein habit, may be acquired on account of eye-strain headaches. The deaths indirectly due to coal-tar products are probably very many, not even to be guessed at. Investigation of the number of headache tablets or powders sold over the drug-store counters shows that the sale is enormous. One firm alone has issued from one small town 2,000,000 acetanilid tablets per month.

Sanatoriums for Tuberculous.—In the campaign against tuberculosis it is perhaps too early to evaluate the numerous methods that have been proposed for lessening or eradicating this disease, writes E. O. Jordan (*Science*, June 2, 1911), but it is already evident that some are more directly repaying than others in proportion to the effort involved. Among the methods for which public funds are legitimately available none is more promising than the provision of sanatoriums for advanced cases of consumption. Newsholme and Koch have shown that the general diminution in the death-rate from tuberculosis observed in most countries can be more reasonably attributed to the establishment of sanatoriums than to any other factor, and that in addition to its humanitarian advantages, the segregation and proper control of the advanced and dangerously infective cases is one of the most useful methods that can be employed by the community to protect itself against the spread of tuberculous infection.

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[*For other information see second page following reading matter*]

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ARTERIOSCLEROSIS IN THE ANCIENT EGYPTIANS

We are accustomed to ascribe to a high-pressure and altogether modern system of living the prevalence of arterial degeneration and its results, ignoring altogether the lack of any evidence of value that arteriosclerosis occurs earlier or oftener nowadays than formerly. Now comes forward Marc Armand Ruffer[1] to tell us that among those ancient Egyptians who still persist in mummified form, sclerosis and atheroma of the vessels were extremely common. In all respects the lesions which developed three thousand years ago were quite the same as those which exist in modern times, not only macroscopically, but also microscopically, since the degree of preservation of the mummy material still permits histologic study.

The question of foremost interest is: Why did the Egyptians suffer so much from arteriosclerosis, since so many of the supposed causes of arterial degeneration did not exist in their time? Tobacco, which of all things probably is accused most in this connection, certainly was not responsible so many centuries before the American Indian and his pipe of peace had been discovered. That other enemy of the arteries, syphilis, was also unknown in old Egypt, so far as examination of mummy material and varied historical evidence indicate. While alcohol was known and appreciated in Egypt in ancient times, yet Ruffer states that the Egyptians as a race are not and never have been habitual drunkards; furthermore, the influence of alcohol in promoting arteriosclerosis is highly doubtful. As to work and worry it is not easy to draw conclusions, but such time-tables as have been discovered show that the working hours of ancient Egyptians were practically the same as those now in vogue in the same country. Heavy muscular exertion and eating of an excessive amount of meat can also be excluded, according to all the existing evidence, and so we find that in Egypt of bygone days arteriosclerosis was a common condition in spite of the absence of the factors to which we now ascribe this process of degeneration.

Possibly we have erred in our ideas of the etiology o arteriosclerosis. In any event, it would seem that th disease is not a new one, and that we cannot correctl ascribe it to newly developed social condition or ne tendencies of occupation and modes of living.

"GETTING" DR. WILEY

Those who have followed the history of federal pur food legislation in this country know that whatever o good in this work has been accomplished has been mor largely due to the indefatigable efforts of Dr. Harvey W Wiley than to any other one man, or possibly to an group of men. Dr. Wiley is one of those rare public officials who believe that laws that have been passed in the interest of the public should be enforced in the interest of the public. And he not only believes it, but he acts on it.

It is probably no exaggeration to say that no law that has been placed on the federal statute books in recent years has been enforced with the same energy and freedom from favoritism as has the federal Food and Drugs Act of June 30, 1906. It is a regrettable fact that the sympathies of Dr. Wiley's superiors in the Department of Agriculture have always seemed to be in the direction of those interests that have amassed fortunes by adulterating drugs and doping the food-supplies of the country.

If the pure food law has been a powerful instrument wielded in the interest of the people instead of a musty dead letter on the statute books, it is because the chief of the Bureau of Chemistry—Dr. Harvey W. Wiley—has made it so. He has made it so in the face of opposition such as cannot be conceived by those not acquainted with the actual facts. And that opposition, to the shame of the government be it said, has not come exclusively from outside sources.

While it is only one of the fights that Dr. Wiley has had to wage against vested wrongs, the sodium benzoate controversy was possibly the best known and most sensational. As a result of the knowledge gained from a series of experiments, Dr. Wiley held that, under the Food and Drugs Act, the addition of this chemical to foods should be deemed adulteration. The interests affected at once brought pressure to bear at Washington, and were able, through an autocratic use of executive power, to bring into existence a body whose function was to pass on the various findings of Dr. Wiley. This body was technically known as the Referee Board of Consulting Scientific Experts, a title which has been colloquially shortened to "Referee Board." Pending the decisions to be handed down by this board—and, apparently, it may be years before the final one is given—Secretary Wilson gave permission for the use of such chemicals as sodium benzoate, saccharin, copper sulphate, etc.

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[1] Ruffer, M. A.: Jour. Path. and Bacteriol., 1911, xv, 453.

The decision of the Referee Board on the sodium benzoate question is now history. It was that sodium benzoate "in small doses" is not harmful. On the strength of these findings, Dr. Wiley's superiors gave the manufacturers permission to use sodium benzoate not only in "small doses," but in any quantity they saw fit, requiring only that the amount of this chemical they found it convenient to use should be stated on the label!

On the question of saccharin, the Referee Board upheld Dr. Wiley in his contention that it was deleterious to health. The Department of Agriculture thereupon declared that after July 1, 1911, all saccharin-containing foodstuffs should be declared adulterated. Again the food adulterators protested. Then the Department of Agriculture, with its fine sense of justice to the interest of manufacturers and its equally fine indifference to the interests of the public, at once extended the period of probation for saccharin until May 1, 1912. Probably before that date arrives another extension will be granted.

These points, which have been discussed in THE JOURNAL before, are merely recalled to make clear the enormous handicap under which Dr. Wiley has been placed in his attempt to enforce the Food and Drugs Act in the public's interest. If space permitted, it might also be well to recall the high-handed way in which the Secretary of Agriculture, after his conversion to the benzoate camp, brought to bear the enormous influence and prestige of his department in jamming through the convention of the Association of State and National Food and Dairy Departments a set of resolutions endorsing the report of the Referee Board on the use of sodium benzoate. Reference might also be made not only to *Collier's* statement that Vice-President Sherman showed great solicitude for the Duffy Malt Whiskey concern when Dr. Wiley's subordinates were investigating it, but also to the allegation that Mr. Sherman's son is financially interested in the firm of catsup makers that was chiefly responsible for the creation of the Referee Board.

Enough has been said, however, to make clear to the reader how onerous Dr. Wiley's position has been. Now comes the report from Washington that Dr. Wiley's enemies have at last found a technical point on which they can ask for his dismissal, and of course, they are playing their hand for all it is worth. Briefly, the charge against Dr. Wiley is that he employed a pharmacognosist of national standing, Dr. H. H. Rusby, in such a way as technically to violate the rules of the department. Dr. Rusby held his services at $20 a day. Under a law recently passed an expert can be hired at a salary not to exceed $11 a day. Dr. Wiley, believing that the public's interest were best conserved by having the services of a big man for part of the time rather than the services of a second-rate man all the time, recommended that Dr. Rusby be employed for so many days during the year, that the maximum salary permitted by the department would total the minimum remuneration that would be accepted by Dr. Rusby. This agreement was not made privately, but had been taken up by Dr. Wiley with his superiors and apparently agreed to by them. Now Dr. Wiley's action in this matter has been passed on adversely by what is referred to as the Committee on Personnel, a committee composed of men who are known to have been open antagonists, if not actual enemies, of the chief of the Bureau of Chemistry. Attorney-General Wickersham—another gentleman whose solicitude for the "interests" is well known—recommends that the President approve the dismissal of Drs. H. W. Wiley, W. D. Bigelow and H. H. Rusby and the reduction in rank of Dr. L. F. Kebler, who for years has been Dr. Wiley's able and energetic assistant.

At the time of writing, President Taft has made no official move in the matter and it is said to be the opinion in official circles at Washington that probably the President will merely reprimand Dr. Wiley for his technical error. The country awaits with interest President Taft's action in this matter. From the standpoint of public interest there can be no question that Dr. Wiley's services should be retained. President Taft, in deciding this case, has it within his power to administer a stinging rebuke to the food dopers and "patent medicine" makers and to those officials at Washington who are more concerned with private gain than they are with public health.

COOPERATION OF TEACHER AND PHYSICIAN IN DEVELOPING BETTER CITIZENS

That a deeper sense of the responsibilities and obligations of citizenship must be inculcated in the young, and that a healthy mind, a necessity for wholesome citizenship, cannot be built up on a defective body, are statements on which stress was laid at the recent meeting of the National Educational Association at San Francisco. On the home and the school largely rests the responsibility for the first condition, and, it was emphasized, to the physician, authorized and supported by the parents, the public must look for the teaching and the measures to overcome the physical defects and the inimical surroundings which lead to delinquency and bad citizenship, or to downright criminality. On the cooperation of these two agencies depend the most far-reaching results to society and to the nation.

In a vigorous arraignment of the materialistic tendencies of the present day, which appal by reason of the utter carelessness and thoughtlessness of the rights of individuals, and deploring the general lack of discipline and regard for law in the scramble to secure wealth and to gratify selfish ambitions, Mrs. Emmons Blaine laid the responsibility for these things on the defective methods of our schools and on the teachers, "whose opportunity is the heart of the whole subject." The development of the commercial spirit has extended too largely even to the schools, with inevitable resulting deterioration in the quality of work done and a consequent lowering of the moral standards of scholarship and of citizenship. She sees in this even a menace to our nation, and feels that as a representative government we have not altogether made good to our forefathers, to the world and to ourselves. But, she says, the citizens of tomorrow are all in the hands of the teachers before materialism grips them by the throat. And what possession, she asks, other than our children do we treat so carelessly? There is no higher ambition and no more important duty than that of making good citizens.

Another essential step in the development of good citizens is the correction of physical defects in the children and the raising of the general standard of health to the highest point. To this end a committee has been appointed by the Section on Preventive Medicine and Public Health of the American Medical Association to confer with a like committee of the National Educational Association, of which Dr. David Starr Jordan is chairman, in a broad investigation of health conditions which prevail among children in large cities, and of adolescent ailments which have a direct bearing on education. This investigation includes, further, the more active cooperation of boards of education and departments of health to reduce child delinquency and crime. Dr. W. A. Evans, chairman of the first-mentioned committee, speaking at the same meeting, said that study of the health conditions of the school children of our large cities and movements to improve that health were as vital in the work of education as any of the theories of education. It is also vital in the work of medical research. Without doubt, a large share of child delinquency is directly traceable to adolescent ailments, and their elimination by timely medical attention meets with an immediate reduction in delinquency and crime among the young.

The work of the school, on the one hand, is to endeavor to build up character and greater respect for authority and obedience to the law of the land, to inculcate greater regard for the rights of others, and to combat the selfish materialistic tendencies of the times. That of the medical profession, on the other, is to endeavor by scientific means to remove all remediable physical defects and to establish satisfactory hygienic and sanitary conditions. It may, therefore, be believed that these two agencies, cooperating in the proper spirit, should be able largely to overcome the defects of our citizenship of which Mrs. Blaine, Dr. Evans and many others justly complain.

THE ARGUMENTS AGAINST CREMATION

Probably the main objection to cremation has hitherto been religious. Yet we believe that there are to-day many clergymen who consider this method to be not contrary to divine law, but preferable to burial. Indeed, in the light of the beautiful Pauline statement, read in Christian services, that, "there is a natural body and there is a spiritual body," it is difficult to find in cremation anything contrary to Christian precept. It is the natural body which material nature must separate and return into its elements, whether this be done by the slow process of decomposition in the grave, or by the more rapid combustion on the funeral pyre. In very truth human living, in its physical aspects is, from the cradle to the grave, a continuous process of combustion; cremation, at its end, is only the same process concentrated within a few minutes of time.

But one other objection to cremation remains—that of the facility which it is assumed to afford criminals for the concealment of the means employed for murder. While the theoretical existence of such a danger must be admitted, practically, under proper precautions, it is probably almost infinitesimal, or at least negligible. In every suspicious case (however slightly so) the coroner or the equivalent legal officer can require an autopsy, with the removal of parts or the whole of organs and their preservation for examination, in the event of alleged poisoning. If these measures seem inadequate, additional safeguards could be established. For example, it might be provided that, as in England, no one might be cremated until two independent death certificates have been made by medical men. In the event of doubt, necropsy should be provided for and viscera would, if necessary, be preserved. Post-mortem examination should be prescribed as a routine procedure in certain instances, as in the cases of persons dying in public institutions and those dying under the custody of others than their natural guardians.

While there are no conclusive objections to cremation, there are positive reasons against burial. Cremation affords a clean and rapid disintegration, while burial is a slow process, most repugnant to any imagination that would dwell on it, and inspiring much occasionless fear of death. Burial is also dangerous to the living, emphatically so when the death has been by reason of a contagion and especially in graveyards adjacent to human habitations. For sparsely settled regions this consideration is not so powerful; but under modern living conditions—when so large a proportion of humanity lives in cities, when so many rural districts become suburban, which in their turn almost as rapidly become urban—the cleaner, more wholesome and more esthetic method of cremation should obtain. The possibility of contagion becomes thus more and more necessary to consider, as districts become congested to a degree surely unprecedented in human history. Many varieties of pathogenic bacteria, transferred by the dead to their graves, multiply inconceivably in the earth. How great a danger is this to the living whose dwellings are near those graves!

Our spreading civilization ruthlessly claims for its economic purposes patches of land hitherto sacred to the dead. No sentiment here! Is it in consonance with the religious sense to see huge factories and tenements towering above and overshadowing little cemeteries, whose dwellers are of other and forgotten centuries? Does it conform with the reverent mood to see workmen, while excavating for the foundations of mercantile buildings, dig up churchyard slime and toss away the bones of long-forgotten dead? Thus, there is not only a hygienic, but also an economic objection to burial. It would be useless to inquire here as to the propriety of the latter; we may but record that it exists and is insurmountable. The acreage in and about large cities now devoted to cemeteries is enormous; the earth now sanctified will certainly in time be desecrated. The crematory is thus the only solution.

Current Comment

AN INVESTIGATION WELCOMED

Since the publication of the charges made against Dr. Wiley by his official enemies, Congress has taken a hand in the affair and an investigation of all the facts leading up to the present episode has been called for. No one will welcome such an investigation more than will Dr. Wiley, unless it is the general public. But it must be an investigation and not another official whitewashing. A real investigation will show several things. It will show, for instance, that Dr. Wiley made powerful enemies when he ruled against a mixture of crude alcohol and a small amount of real whisky being labeled "whisky." It will show that he incurred enmity when he declared that inferior wheat was adulterated when it had been bleached by chemical process to resemble a high-grade product. It will show that he aroused violent antagonism when he protested against the use of such chemicals as sodium benzoate, saccharin and copper sulphate in foodstuffs. It will show that he made an implacable foe of the glucose trust when he protested against its product being sold under the misleading and euphemistic name, "corn syrup." It will show, also, that he set in motion a tremendously powerful and vicious organization when he exposed the frauds and dangers inseparable from the "patent-medicine" business. All this it will show, and much more, that Dr. Wiley has done in the interest of public health and safety. Then, too, if it is a real investigation, we may learn why the hundreds of thousands of dollars that have been spent on the investigations by the Referee Board should have come out of appropriations intended for the enforcement of the Food and Drugs Act. We may learn why, although it is illegal to pay a pharmacognosist more than $11 a day when acting as an expert for the government, legal experts for the government may be paid as high as $150 a day—out of "contingent funds"! We may learn why the cases which were started by Dr. Wiley's assistants against the Duffy Malt Whiskey outfit have been held up for years by his superiors and have not yet come to trial. It may show, although we are hardly optimistic enough to believe that it will, what relationship there is between the Vice-President of the United States and the Duffy-Malt Whiskey interests. It may show why two small-calibered men were put in a position of equality with Dr. Wiley so as to handicap his aggressiveness in the public interest. It may show a number of other things—providing it is a real investigation. One thing it will show, and that is that Dr. Harvey W. Wiley has been standing alone, fighting the people's fight for pure food and pure drugs, abused, maligned, and vilified by special interests, and receiving little support from his official superiors. And by the time the investigating committee is through with its work Dr. Wiley's position before the country will be strengthened, while the machinations of his enemies will have been exposed.

THE DEATH OF SENATOR

We chronicle this week the death of one of the most eminent clinicians in modern medicine, Professor Senator—at once a practical physician, an able teacher and an indefatigable investigator. Germany has lost one of her master minds in medicine. His many-sided learning is indicated by the number of his works covering various departments of medicine. While his devotion to general medicine led him at one time to decline the directorship of a children's clinic on the ground that he wished to be a physician, not a specialist, nevertheless he distinguished himself in some of the most specialized branches of medicine. He early turned his attention to legal medicine, and some of his works in this branch, especially on the changes after death from chloroform poisoning, are models of research. Later he also devoted much study to skin diseases, and still later to physiology and pathology, and especially to the pathology of metabolism, which led to the production of his most important writings, those on albuminuria, kidney diseases and diabetes. In July, 1910, on account of advancing age, at the same time as the venerable Olshausen, he resigned his professorship in Berlin University. He was one of those virile minds that have long made Germany the Mecca in medicine for the students of the world. Few men have made such an impression on two generations of postgraduate workers as has Senator, and his genial interest has been a stimulus to scientific achievement in other countries besides his own.

THE LETTER OR THE SPIRIT OF THE LAW?

The straits to which Dr. Wiley's enemies have come in their attempt to have him removed from his position are best realized by those familiar with official methods in Washington. He is accused of technically violating the law regarding the payment of salaries. As several newspapers have said, technical violations of this sort are of daily occurrence in Washington. The creation of the Referee Board, which was brought into existence to pass on Dr. Wiley's findings, was probably a technical violation of the law. It is still an open question whether that board has any legal existence. When Attorney-General Wickersham was asked for an opinion on the matter, it is said that he turned the problem over to his assistant, James M. Fowler, for investigation. It is asserted that Mr. Fowler, after a careful examination, held that the Referee Board had no legal existence, but that Attorney-General Wickersham disregarded Mr. Fowler's opinion and the matter was referred to the solicitor of the Department of Agriculture, George P. McCabe. McCabe, it is alleged, prepared another opinion declaring the Board legal. McCabe, by the way, with F. L. Dunlap constituted, with Dr. Wiley, the Food and Drugs Inspection Board. It has long been understood that McCabe and Dunlap were put on this board for the purpose of restricting Dr. Wiley's activities as greatly as possible and rendering him a mere figurehead. It is well-known that both Dunlap and McCabe have, either openly or secretly, antagonized Dr. Wiley whenever possible. It was Dunlap who, dressed in brief authority as Acting-Chief of the Bureau of Chemistry, and in the absence of Dr. Wiley, preferred the present charges against his chief. McCabe was one of the three members on the Committee on Personnel which have recommended —with Wickersham's approval—Dr. Wiley's dismissal. Possibly Dr. Wiley is technically in the wrong and probably Wilson, Wickersham, McCabe and Dunlap are technically in the right. It is the letter of the law that kills! This much is certain, Dr. Wiley's enemies, both in and out of the government service, have been watching for years for an opportunity to find something out of which they could make a "case" and this trivial technical charge is the worst that can be brought against him. As the public learns the facts, it will perforce hold the opinion that the hawk-like vigilance of Dr. Wiley's official antagonists could have been better employed in detecting the crimes against the public health than in trying to hamper, harass and badger an aggressive, honest and efficient public servant.

OBTAINING MONEY UNDER FALSE PRETENSES

The case of John J. Arberry, the California quack, who, conducting a "medical institute" under the name "Dr. Taylor & Co.," was convicted of obtaining money by false pretenses, was related at some length in THE JOURNAL, January 29, 1910. This case was of interest because of several unusual features connected with the prosecution. Arberry tried to obtain money from a young man, who had come in from the country, by falsely telling him that he was suffering from a valvular disease of the heart. Arberry's defense was that he had made a mistake in diagnosis and that all physicians may disagree in such matters. Mr. Walter Kaufman, the attorney who was prosecuting the case, however, held that this was a matter of fact and not of opinion; a contention that the court upheld. So vital to the quack fraternity were the points raised in this case that their San Francisco members were said to have raised a purse of $25,000 to fight the case. Nevertheless, Arberry was found guilty. Of course, he appealed; the decision of the court of appeals is given at some length in the Medicolegal Department of this issue. The appellate court affirmed the judgment of the lower court, convicting Arberry of obtaining money by false pretenses. Moreover, the Supreme Court of California denies a rehearing. It will be appreciated, of course, that Arberry was not tried for practicing without a license—the usual way of attempting to check these impudent frauds—but for obtaining money under false pretenses. THE JOURNAL has heretofore suggested that this method is much more advisable, and will more readily appeal to the public, than prosecuting a man for the practice of medicine without a license. As a matter of fact, most of these advertising quacks do have licenses, and hence are proof against prosecution so far as this is concerned. Few them, however, are proof against the charge of obtaini money under false pretenses. As we remarked on before, the important point is that under such charg the quack becomes a common felon. While the layma may experience difficulty in recognizing the danger quackery *per se,* he finds no such obstacle in a case plain robbery. The average man is perfectly willing play fast and loose with his health, but he objects to an such harsh treatment of his purse. Let the public onc realize that quackery and robbery are usually synony mous, and the outcome of legal action instituted agains quacks may be safely predicted.

Medical News

ARKANSAS

Typhoid in Little Rock.—Following an appeal to the federa authorities in Washington for aid in controlling an epidemi of typhoid fever in Little Rock, the Governor has been advise that Passed Assistant Surgeon W. H. Frost, U. S. P. H and M.-H. Service, is on his way to make the require investigation.

Personal.—Dr. James H. Lenow has been elected dean an Dr. Joseph P. Runyan, vice-dean, for the consolidated medica departments of the University of Arkansas, and Dr. Charle S. Holt, Fort Smith, has been elected professor of operative surgery.——Dr. R. R. Dinwiddie has resigned as city physician of Fort Smith.

State Board Appointments.—The Governor has announce the following appointments to the State Board of Health: First district, Dr. Octavius L. Williamson, Mariana; secon district, Dr. Thomas I. Stout, Brinkley; third district, Dr Asbury J. Vance, Harrison; fourth district, Dr. J. Gilbert Eberle, Fort Smith; fifth district, Dr. Robert L. Smith, Russellville; sixth district, Dr. Charles Dake, Hot Springs, and seventh district, Dr. E. R. Rowland, El Dorado.

Medical Schools Consolidated.—It is reported that the College of Physicians and Surgeons of Little Rock has been merged with the Medical Department of the University of Arkansas and that the consolidated school has been accepted by the Board of Trustees of the State University as an integral part of that institution. This is in accordance with an act passed by the last legislature providing for the development and support of the Medical Department of the University of Arkansas.

CALIFORNIA

Personal.—Dr. Joseph M. Toner has been appointed coroner of San Francisco County, vice Dr. William J. Walsh, deceased, and Dr. Max E. Magnus has been appointed autopsy surgeon. ——Dr. Francis H. Mead has been reelected health officer of San Diego.

College to be Hospital.—The committee on grounds and buildings of the University of California has been given power to have alterations made in the Los Angeles Medical Department structure to fit it for hospital uses. The legislature has made an appropriation of $25,000 for this purpose.

State Sanitation Car.—The state sanitation car which has already traveled more than 10,000 miles in California, diffusing valuable information to the public on preventable diseases, and which was on exhibition in Los Angeles during the meeting of the American Medical Association, is continuing its tour of the state, going north over the Coast Line.

Lane Medical Lectures.—The Lane Medical Lectures, founded in 1896 by Dr. Levi Cooper Lane, San Francisco, consist of "a free course of lectures on medical subjects by men distinguished at home or abroad for their work in either medicine or surgery and are intended for medical students and the medical profession at large." For this year the directors of Cooper Medical College have invited Dr. Ernest Fuchs, professor of ophthalmology in the University of Vienna, who will deliver ten lectures between August 21 and 25. The subjects are: "Operations on the Eye," "The Eye in Tabes" (two lectures), "Trachoma," "Tumors of the Eye," "The Eye in Brain Affections" (two lectures), "General Symptomatology," "Corneal Ulcers" and "The Anatomical and Functional Development of the Eye from Its Lowest to Its Highest Type Through the Animal Kingdom." The lectures will be delivered in English in Lane Hall, San Francisco, and will be fully illustrated and members of the medical profession are invited to attend.

ILLINOIS

New Hospital Staff.—The following members of the staff of Julia F. Burnham Hospital, Champaign, have been reappointed: Drs. Cassius M. Craig, William E. Schowengerdt, William L. Gray, Clyde D. Gulick, J. F. Mason, William M. Honn, Charles H. Spears, Jennie Lyons, Albert S. Wall, Cyrus F. Newcomb, Otis O. Stantley and A. Darwin Kirby.

Personal.—Dr. Frank P. Norbury, superintendent of the Kankakee State Hospital, has resigned and, after spending some time in the East in study will take up practice of his specialty in Illinois.——Dr. Arthur E. Rogers, Bloomington, who has been ill at St. Joseph's Hospital, is reported to be convalescent.——Dr. Seymour H. Woodworth, Park Ridge, sustained a serious cut of the leg in an automobile accident near Lake Zurich, July 7.

Sanitary Appropriations.—The appropriations of the State Board of Health for sanitary purposes were increased by the General Assembly just adjourned. The sum of $46,000 was given for the purchase and free distribution of diphtheria antitoxin in the state. An appropriation was made for the care of poor persons bitten by rabid animals. Liberal appropriations were made for the enforcement of the medical practice act, to take the place of the fees turned in under the new law. Unfortunately it is specified in this last appropriation that no part of the sum shall be expended for legal services.

State Board of Health Handicapped in Prosecutions.—The recently enacted law, in effect July 1, requiring the State Board of Health to turn into the state treasury all moneys received from fees, fines and penalties, leaves the board without means to hire special attorneys to prosecute violators of the medical practice acts in the several counties of the state. Suits must be brought hereafter through state's attorneys, few of whom instituted prosecutions in the past, even when paid the fines collected. It is believed that none will do so in the future, when the fines are to be turned into the state treasury. The State Board of Health fears that under the conditions now existing, the state will be overrun with unlicensed practitioners, who will practice in defiance of the law.

Chicago

Typhoid Carrier Isolated.—Miss Rose Boersma, who is said to be responsible for the recent epidemic of typhoid fever in Englewood, has been isolated at the home of her uncle in Morgan Park and will be kept under medical care until all risk has disappeared.

Upholds Pure Food Act.—The pure food and drugs act was declared to be constitutional by Judge Landis, June 22, when he overruled the demurrer of three ice-cream companies, which had been indicted on the charge that they were selling ice cream which contained impurities.

Bequests.—By the will of the late Sylvester T. Smith, $2,500 is bequeathed to the Alumni Association of St. Luke's Hospital.——By the will of Mrs. Nannie Loewenthal, $3,000 is bequeathed to Michael Reese Hospital and $1,000 each to the Chicago Lying-In Hospital and Dispensary, and the Alexian Brothers' Hospital.

New Hospitals Open.—The Columbus Extension Hospital at Polk and Lytle Streets was opened with impressive ceremonies July 16. The new hospital is a branch of the Columbus Hospital.——The West Side Physicians' Club, in memory of Dr. Nicholas Senn, has established and opened a charitable free dispensary, to be known as the Senn Polyclinic, at 740 South Loomis Street. The dispensary has sixteen departments and will be open both days and evenings.

Personal.—Dr. Oren J. Waters is seriously ill in Passavant Hospital with septicemia, due to an operation wound.——Dr. Edwin R. LeCount has been appointed coroner's physician of Cook County, vice Dr. Henry G. W. Reinhardt, resigned, to become statistician of Cook County Hospital.——Dr. John E. Siebel, Jr., has sailed for Europe.——The summer home of Dr. George F. Fiske, at Lake Forest, was destroyed by fire July 12.——Dr. George J. Spencer has been appointed city physician and Dr. Max A. Weisskopf a member of the bridewell board.——E. E. Palmer, for twenty-seven years secretary of Truax, Greene & Company, died at his home in Oak Park, July 9, aged 48.

Louisiana Health Exhibit Car.—The health exhibit car of the Louisiana Board of Health, to which we have referred before, arrived in Chicago, July 18, and was on exhibition at the Illinois Central Station, Park Row, for two days. The train was on exhibition at Los Angeles during the meeting of the American Medical Association, then went to San Francisco and has made fourteen stops for exhibition en route and six dates are to be filled between Chicago and New Orleans. The train is under the personal charge of Dr. Oscar Dowling, president of the State Board of Health. The burden of this movement is pure food, pure drugs, better doctors, cleaner homes and higher health standards.

KENTUCKY

Louisville Water.—A report has been made by the Louisville Water Company which shows 26,742,551 gallons of water were used each day during the month of June. The daily analysis of water showed the average number of bacteria before filtration was 850 per c.c. and 120 per c.c. after filtration.

Personal.—Prison Physician Richard H. Moss narrowly escaped death by electricity during the first electrocution under the new state law at Eddyville July 8.——Dr. Thomas J. Morgan has been reelected medical inspector of the schools of Covington.——Dr. J. T. Tichenor, Waterford, is reported to be seriously ill as the result of heat exhaustion.——Dr. W. Hamilton Long, Louisville, has been commissioned first lieutenant in the medical corps of the state and has been assigned to the First Infantry.——Dr. and Mrs. Edward Spiedel, Louisville, celebrated their silver anniversary at the Seelbach, July 6.

State Board Meeting.—At the meeting of the State Board of Health at Louisville July 12 the chief topic of discussion was the result of the campaign of the board to improve the water supply of the state and prevent its contamination by slop from distilleries. The board is planning to get data to make maps of the water supply of the state as a preliminary movement for the betterment of the water supply and to make tests of the water in various streams in the state to determine its purity and where it is found necessary to improve conditions by making changes in the drainage, building ditches and other methods.

MAINE

Personal.—Dr. and Mrs. Adam P. Leighton, Jr., Portland, leave for Europe early next month.——Dr. Frank W. Searle, Portland, has been reappointed a member of the Board of Registration in Medicine.

Faculty Changes.—In the Medical School of Maine the following changes in the faculty have been made by the resignation of Drs. Alfred Mitchell and Frederick Henry Gerrish: Dr. Addison S. Thayer has been elected dean and professor of medicine and Dr. Alfred King has been placed in charge of the department of surgery. Dr. Ambrose H. Weeks has been elected instructor in medicine, Dr. Fred P. Webster, lecturer on diseases of children, and Dr. James E. Keating, assistant professor of medicine.

MARYLAND

Personal.—Dr. Eugene L. Crutchfield, Baltimore, was given the honorary degree of A.M. by St. John's College, Annapolis, recently.——Dr. Clarence E. Downs, Baltimore, has been made health warden of the eleventh ward, vice Dr. Nathan E. B. Iglehart.——Dr. A. L. Blessing, Brownsville, was severely injured in a runaway accident June 27.——Dr. George Heller, who has been ill in St. Joseph's Hospital, Baltimore, for several weeks, is reported to be improving.

MASSACHUSETTS

Scholarship Established.—By the will of Frank Dunlap Frisbee, who died in Newton, May 16, a scholarship is provided for at Harvard Medical School, to be known as Jesse F. Frisbee Scholarship, to be given to "poor and deserving students."

Doctors' Club Elects.—The Attleboro Doctors' Club held its annual meeting June 13 and elected the following officers: President, Dr. Joshua W. Clarke; vice-president, Dr. Wilfred F. Milot, and secretary and treasurer, Dr. George E. McPherson.

Personal.—Dr. and Mrs. David D. Johnson, Boston, sailed for Europe July 2.——Dr. Joseph P. Murphy, Brookline, has been appointed assistant to the chief of the child hygiene division of the Boston Health Department.——Drs. Thomas H. O'Connor, Roxbury, and Joseph H. Deveuny, Dorchester, have been appointed ward physicians of Boston.

MICHIGAN

Gift to Tuberculosis Fund.—Mr. E. C. Mershon has presented the Saginaw Antituberculosis Society with a check for $1,000.

Fire in Hospital for the Insane.—The dining-room and kitchen of the State Hospital for Insane Criminals, Ionia, was destroyed by fire July 5, causing a loss of $50,000. No casualties occurred.

Annual Clinic.—The sixth annual clinic of the Detroit Boulevard Sanitarium, given under the auspices of the board of directors, Dr. Edgar B. Smith, William J. Stapleton, Jr., and A. L. French, and Hon. Frank T. Lodge, was held July 10 and 11, 14 and 15.

Health Board Exhibits.—The special train, a part of which contains the exhibit of the Michigan Agricultural College, Lansing, and two cars of the State Board of Health exhibit, will leave Lansing August 1 on a twelve-day tour of the state. The State Board exhibition will be in charge of Dr. Robert L. Dixon and two other officials of the department.

Personal.—Dr. Ralph E. Balch, Kalamazoo, has been severely ill with septicemia.——Dr. James C. McGregor, Flint, was operated on recently for appendicitis in a hospital at Los Angeles, Cal.——The University of Michigan has conferred the honorary degree of Doctor of Public Health on Dr. Guy L. Kiefer, health officer of Detroit.——Dr. Flavius J. Knight, Charlotte, was stunned and burned by a lightning shock recently.——The office of Dr. Charles F. O'Neill, Middleton, was destroyed by fire recently.

MINNESOTA

Baby Welfare Association.—The St. Paul Baby Welfare Association was organized July 3, and was attended by physicians, society workers and other citizens. Dr. Justus Ohage was elected president, and Drs. Walter R. Ramsey, Dr. James T. Christian and Jennette M. MacLaren were elected members of the board of directors. The society will establish a clinic and milk laboratory in charge of a competent nurse and will become a branch of the National Association for the Prevention of Infant Mortality.

County Medical Society Meets.—The forty-third annual meeting of the Wabasha County Medical Society was held at Plainview, July 6. The following officers were elected: president, Dr. Michael J. Shaughnessy, Wabasha; vice-president, Dr. Walter W. Nauth, Minneiska; secretary and treasurer, Dr. William F. Wilson, Lake City; delegate to the state association, Dr. Emery H. Bayley, Lake City; alternate, Dr. Dormie P. Dempsey, Kellogg, and censor, Dr. William T. Adams, Elgin. It was voted to hold the next annual meeting at Lake City.

Personal.—Dr. Hibbert Winslow Hill, director of the division of epidemiology of the Minnesota State Board of Health, received (by examination) the diploma of public health of the University of Toronto, at the recent commencement, June 9. Dr. Hill graduated from Toronto University in 1893 with honors and a postgraduate scholarship, receiving the degree of M.B., which is the only degree granted by the Toronto University in graduation of medicine. In 1899 he received the degree of M.D. together with the Starr gold medal, the latter awarded for a doctor's thesis on "Relation of Bacteriology to Public Health." The diploma of public health just granted is the first given by the University of Toronto, although the course has been open and the degree available for several years.——Dr. Arthur W. Shaleen, Hullock, has returned from Europe.——Dr. Herbert O. Collins, formerly city physician of Minneapolis, has been elected superintendent of hospitals of that city.

MISSOURI

Personal.—Dr. Walter S. Wheeler has been reappointed health commissioner of Kansas City with an increase of salary.——Major Oliver C. Gebhart, M.C., N.G.Mo., in charge of the field hospital, has been appointed chief surgeon, vice Dr. Daniel H. Morton, St. Joseph, resigned.——Dr. William R. Schaefer, Columbia, who was operated on for appendicitis July 1, is reported to be making satisfactory progress toward recovery.

St. Louis

Barnes University Assigns.—It is reported that William G Schofield, St. Louis, has been appointed assignee of the Barnes University property. The indebtedness of the college is said to be about $218,000 and the assets about $87,000. Two mortgages on the property are outstanding; one, which is for $45,000, covering the university and hospital, and the second mortgage for $40,000 on the hospital, guaranteed by the university to secure an issue of bonds made by the hospital. The university corporation has outstanding about $65,000 in unsecured claims and $3,500 of floating indebtedness. The hospital, which is a separate corporation, has about $4,500 floating indebtedness. A reorganization of Barnes Medical School with the state university has been considered, but without any tangible result.

NEW YORK

Personal.—Dr. Edwin Fancher, Middletown, while making a call to inquire into the sanity of a patient, was shot at three times by the patient, but fortunately escaped injury.——Dr. Robert B. Lamb, medical superintendent of the Matteawan State Hospital, has resigned.

New York City

Bequest.—By the will of Miss Adele A. Dortic, the Presbyterian Hospital will receive $100,000, and the New York Infirmary for Women and Children, $2,000.

New Dispensary Dedicated.—The new home for the Ladies' Hebrew Dispensary, Brooklyn, was dedicated July 3, and a fair was opened which was continued during the entire week for the benefit of the institution.

Training School for Midwives.—The trustees of Bellevue and Allied Hospitals have opened a training school for midwives. No civil service examination is required for entrance, but a knowledge of foreign languages is very desirable. The teaching will be under the direction of a resident and an assistant resident obstetrician.

Decrease in Infant Death-Rate.—From July 1, when the intense heat began, to July 15, 706 babies under 1 year of age died in this city as compared with 1,006 for the first two weeks in July of 1910. For the week ending July 15, there were 359 deaths of infants under 1 year of age, as compared with 568 for the same week in 1910. The health department believes that the concerted action of the many agencies employed in combating infant mortality are largely responsible for the decreased death-rate.

Appointments to Board of Inebriety.—The Board of Inebriety authorized by the legislature in 1910 was brought into being on July 11 when the mayor appointed seven members to serve on this board; two physicians, Dr. William G. Browning, Brooklyn, and Dr. John Dorning, New York, and two clergymen. The law requires that the board shall consist, in addition, of the commissioner of charities and correction, ex officio, and one layman. All male persons arrested for intoxication will come under the influence of the board. An industrial colony which will provide the opportunity for permanent reformation is being planned.

The Cholera Situation.—Despite the precaution made by the health officer of the port of New York there have been five deaths from cholera and eighteen cases of the disease among immigrants who arrived July 5 on the *Moltke*. Out of the five, one died at Auburn, N. Y., one at Brooklyn and the other three at the Swinburne Island Hospital. There are at present eighteen patients with cholera, all of whom are reported to be convalescent. The task of examining the 600 immigrants who arrived on the *Moltke* and *Perugia* was begun July 17. The first native case of cholera ended July 13, in the death of a night watchman at the quarantine station. He was ill for three days before the case was diagnosed as cholera on the day before he died.

Temperature of Milk.—The health commissioner in his press bulletin of July 13, makes public the plan of the department to keep milk at a low temperature as it comes into the city. A schedule was first arranged that two inspectors were detailed to inspect milk at thirteen points at which it comes into the city. Under the present arrangements each inspector is detailed to night work once in about eight days and each receiving point is thus inspected about once in two weeks. During the recent extremely hot weather an additional number of inspectors was detailed to inspect the milk especially in regard to temperature at the receiving points as well as on the delivery wagons. Four to eight were thus detailed each night during the hottest week of the year. The highest temperature of 888 specimens examined was 49 degrees. On the hottest days 718 specimens were examined and of these seventy-eight were found to be above the temperature of 50 degrees. In addition to this work two inspectors have been detailed each week to inspect milk delivered on wagons to retail stores, and it is found that this milk is almost always kept below the temperature required by the health commissioner. The inspection of milk in retail stores shows almost universally that the cans are surrounded with ice in ice-boxes or tubs while the milk is on sale. On June 16, special investigation was made on milk on sale in retail stores and out of 253 inspections only 156 quarts were found to be above the legal temperature, and this milk was destroyed. The commissioner furthermore calls attention to the necessity of refrigerating milk on account of the enormous increase of bacterial content with high temperature.

Buffalo

Personal.—Dr. F. Park Lewis has been reappointed commissioner for the State School for the Blind, Batavia.——Dr. Arthur R. Gibson has resigned as milk inspector.

To and From Europe.—Drs. John M. Snow, Matthew D. Mann, Cornelius J. Carr, James L. Gallagher, William H. Billings and George A. Himmelsbach have sailed for Europe, and Dr. George J. Haller has returned from abroad.

Academy Meeting.—At the annual meeting of the Buffalo Academy of Medicine the following officers were elected: president, Dr. Stephen Y. Howell; secretary, Dr. Harry R. Trick; treasurer, Dr. Lawrence Hendee; trustee, Dr. John H. Pryor, and section officers—medicine, Dr. Henry C. Buswell, chairman, and Dr. Carl S. Tompkins, secretary; surgery, Dr. James H. Lewis, chairman, and Dr. Herbert A. Smith, secretary; obstetrics, Dr. Joseph S. Lewis, chairman, and Dr. Alfred H. Nahren, secretary; and pathology, Dr. Henry Adsit, chairman, and Dr. Guy L. McCutcheon, secretary.

District Nurses.—The twenty-sixth annual meeting of the District Nursing Association of Buffalo shows that during the year 28,364 visits were made and 2,176 patients were under care. The work of the association is divided into district nursing, tuberculosis work, the baby's dispensary and social service. There are eight nurses in the district work, and six in the tuberculosis work, one in the babies' dispensary and the others in the social service. In the babies' milk dispensary 213 patients attended; 16,707 quarts of milk were distributed and 102,650 bottles were sterilized.

NORTH CAROLINA

Personal.—Dr. Clarence Judd, Holly Spring, has been elected resident physician of Rex Hospital.——Dr. George W. Long, Graham, has been elected superintendent of health of Alamance County.

Field Hospital at Asheville.—It has been decided to make Asheville the headquarters of the field hospital of the organized militia of North Carolina. Captain Francis J. Clemenger has been designated to recruit and command the field hospital. The field hospital, the ambulance company and three regimental infirmaries will be organized first. The ambulance company will be located at Raleigh under the command of Lieut. Herbert Haywood.

PENNSYLVANIA

Pure Milk Crusade.—During the last month, samples of milk for analysis have been taken in over thirty counties and eight prosecutions for the sale of milk containing formaldehyde or other preservatives were commenced July 12 by Dairy and Food Commissioner James Foust.

Personal.—Dr. L. H. Marshall, Conneautville, had two ribs broken and received serious injury in an automobile accident July 12.——Dr. R. W. Brown, Greenville, has been appointed chief surgeon of the Bessemer and Lake Erie Railroad, vice Dr. Samuel M. Ziegler, deceased.——Drs. George D. Nutt and John G. Clump have resigned from the board of trustees of Williamsport Hospital. Dr. Charles W. Youngman has been appointed president of the board of trustees of that hospital and Drs. G. Franklin Bell and Charles E. Heller have been elected trustees. The following staff has been selected: consulting physician, Dr. Eugene B. Campbell; physician-in-chief, Dr. Horace G. McCormick; surgeon-in-chief, Dr. G. F. Bell; physicians, Drs. Horace G. McCormick and William E. Glosser; diseases of children and contagious diseases, Dr. Waldo W. Hull; surgeons, Drs. G. Franklin Bell and Charles M. Adams; gynecology and genito-urinary diseases, Dr. Edward Lyon; pathologist and microscopist, Dr. Ferd. E. Weddigen; outdoor department, Drs. John P. Harley and George R. Drick, Robert F. Trainer and Charles J. Cummings, and eye, ear, nose and throat, Drs. Wesley F. Kunkle and H. Murray Ritter.

Philadelphia

To Enlarge Race Street Pier.—It has been found necessary to add fifteen beds to the Race Street Pier Hospital, as the present capacity of twenty-five beds has proven too small. This hospital is open day and night, and besides the general hospital equipment, it has a medical staff consisting of Dr. Le Roy A. Wilkes, resident physician; Drs. James D. Brittingham and Henry J. E. Newman, attending physicians, and Drs. Edwin E. Graham and J. P. Crozer Griffith, consulting physicians. There is a nursing staff of six trained nurses.

Gift to Red Bank.—Mr. and Mrs. John F. Combs have given $15,000 for building a sea wall to protect the property at Red Bank, N. J., conducted by the Sanatorium Association of Philadelphia. At Red Bank there is a grove where children are allowed the greatest amount of liberty, and a building, fitted up as a hospital, with large airy wards in which are beds capable of accommodating about twenty-five children. Last summer more than 103,000 persons were taken to the resort and during the time that the Sanatorium Association has been in charge almost three and a half million needy persons have been taken there.

Personal.—Dr. John A. Kolmer has been elected professor of pathology and director of laboratories in the Philadelphia Polyclinic and College for Graduates in Medicine.——Dr. Joseph S. Neff, director of public health, who has been seriously ill, is reported convalescent.——Dr. Herbert Fox, chief of laboratories of the State Department of Health, has resigned to assume the position of director of the Pepper laboratories of the University of Pennsylvania.——Drs. Edward B. Beasley and Albert Bowen have been appointed to the Queen's Hospital in Honolulu, Hawaii.——Dr. Melvin Franklin sailed for Europe July 10.

Gifts to Medical Libraries.—Since the former report of the chairman of the library committee, April 15, a number of substantial donations have been received at the Central Branch of the Free Library, northeast corner Thirteenth and Locust Streets, e. g. from Dr. John M. Cruice, six volumes of journals; from Dr. Francis W. Sinkler, twenty-six volumes, and from Dr. K. L. Storm (through Dr. A. B. Hirsh) numerous recent medical periodicals. There are thirty-six new and standard works in the Central Branch of the Free Library. These will also be forwarded to the Northeast Branch for the benefit of its members and physicians in good standing, as well as medical students on showing a matriculation card. A few additional books have been ordered to be purchased out of the appropriation of $100 made by the Philadelphia County Medical Society, and the following journals will be sent to the Northeast Branch after July 1, 1911: THE JOURNAL of the American Medical Association, *Therapeutic Gazette*, London *Lancet*, and the *American Journal of Surgery, Gynecology and Obstetrics*.

WYOMING

Change in Medical Board.—Dr. J. B. Tyrell, Laramie, formerly secretary of the Wyoming State Board of Medical Examiners, is now vice-president and Dr. Albert B. Tonkin, Riverton, formerly vice-president, has been made secretary of the board.

Election.—The Big Horn Medical Association, at its recent meeting in Basin, elected the following officers: president, Dr. C. Dana Carter, Basin; vice-president, Dr. R. M. Hamilton, Grayboull; secretary, Dr. George A. Harris, Basin, and treasurer, Dr. Torgeson, Lowell.

GENERAL NEWS

Prize Essay.—Dr. Lewis D. Mason, Brooklyn, vice-president of the American Society for the Study of Alcohol and Other Narcotics, has offered a prize of $150.00 for the best essay on "Biologic and Physiologic Relations of Alcohol to life." The essay must be the result of original research which shall confirm or disprove the present theories of the inherited effects of alcoholic degeneration and indicate how far the defects of the parents are transmitted to the children. Such work may be carried on in man or animals, and the results may be illustrated by drawings or photographs, and must be typewritten and sent to the office of the secretary before July 1, 1913. This offer is open to students in all countries, and each essay should be accompanied by a motto and a sealed envelope containing the same, with the author's name and address. All inquiries should be addressed to Dr. Thomas D. Crothers, Hartford, Conn., secretary.

Railway Surgeons Hold Meeting.—At the annual meeting of the Monon Surgical Association, held in Indianapolis, June 29, Dr. Arthur J. McDonald, Bedford, Ind., was elected president, Dr. H. E. Sharrer, Hammond, Ind., vice-president, and Dr. Samuel L. Ensiminger, Crawfordsville, Ind., secretary-treasurer.

Annual Meeting of Surgeons.—The annual meeting of the American Surgical Association was held in Denver, June 19-21. Montreal was selected as the meeting place for 1912. Dr. Arpad G. Gerster, New York City, was elected president and Dr. Robert Grier Le Conte, Philadelphia, was reelected secretary.

Medical Editors' Association.—The forty-second annual meet of the American Medical Editors' Association, held in Los Angeles, June 26 and 27, under the presidency of Dr. Joseph McDonald, Jr., New York City, elected the following officers: president, Dr. Walter Wyman, Surgeon-General U. S. P. H. and M.-H. Service; vice-presidents, Drs. Thomas L. Stedman, New York City, and Walter Lindley, Los Angeles; secretary and treasurer, Dr. Joseph McDonald, Jr., New York City, and executive committee, Drs. Wallace C. Abbott, Chicago; Cyrus L. Stevens, Athens, Pa., and George H. Kreidler, Cincinnati.

Rockefeller Institute Staff Appointments.—The board of scientific directors of the Rockefeller Institute for Medical Research announces the following appointments to the staff: Dr. Alfred E. Cohn, associate in medicine; Dr. Arthur W. M. Ellis and Dr. Alphonse R. Doches, assistant resident physicians; Frank W. Bancroft, Ph.D., and Reinhard H. Beutner, Ing.D., assistants in experimental biology; Drs. James B. B. Murphy and Henry K. Marks, assistants in pathology; J. J. Bronfenbrenner, fellow in pathology; Frederick B. La Forge, Ph.D., and Angelia M. Courtney, assistants in chemistry, and Helen L. Fales, research scholar in chemistry.

Hospital System for Railroads.—The Illinois Central Railroad Company announces that, beginning with this month it will open a surgical department to include its entire lines. The department will be in the hands of a cooperative benefit and relief association, where each employee who desires may contribute 50 cents a month to the maintenance fund. Dr. Guy G. Dowdall, chief surgeon of the road, will be in charge of the department. All who contribute to the fund are entitled to hospital treatment and medical and surgical care at designated hospitals, to medical and surgical treatment at their homes or at the offices of the surgeons of the hospital department; to medical and surgical dressings, artificial limbs and eyes, trusses, elastic bandages and other appliances, and to eye-glasses when required as the result of injury.

FOREIGN NEWS

Central America Medical Congress.—The first International Medical Congress for the states of Central America has been organized, to be held at San Salvador during November. Dr. T. G. Palomo is to preside.

Danish Automobile Club.—The physicians of Denmark have a special "Danske Lægers Motorklub," and at the annual meeting recently there was an interesting exhibition of cars and appliances for the use of motoring doctors.

Semicentennial of Polish Medical Journal.—The journal, *Przeglad Lekarski*, the official organ of the Cracow Medical Association, celebrated the fiftieth anniversary of its foundation July 17. Cracow is the capital of Austrian Poland and numerous invitations to the celebration were sent out. Prof. N. Cybulski is the president of the association. Prof. S. Ciechanowski is editor of its journal.

University for Iceland.—The University of Reikiavik was formally organized last month and will enter on its work next October. There has been a medical college there since 1876 and this will be incorporated with the university. It is stated that the new university will open with nine professors and twelve docents and that the higher official positions on the island will henceforth be reserved for those who have passed the examinations of the university.

Death of Professor Senator.—The cable brings word of the death of the eminent Berlin clinician, Hermann Senator, aged 77. His seventieth birthday was celebrated in 1904 with much ceremony and his medical diploma was renewed in 1907 on the occasion of the fiftieth anniversary, his golden jubilee. He has kept up his frequent contributions to medical literature to the last, the current mail containing another article from his pen on "Idiopathic Enlargement of the Spleen." His works on albuminuria, diabetes and kidney disease have passed through many editions and been translated into all the current languages. He was born Dec. 6, 1834, in a small town in Posen, but has always lived at Berlin, becoming privat-docent for internal medicine and medical jurisprudence in 1868 and regular professor in 1875, and has been in charge of the third university medical clinic since 1888 until recently. He has long been president of the Berlin Medical Society but declined reelection this year on account of his advanced age. He resigned his professorship in 1910, at the same time as Olshausen who is a year younger. Senator's student days were distinguished by his poverty and his diligence; it is said that he selected his room near a street lamp that h might save the cost of lighting the room. His earnestnes soon won recognition so that he became the "famulus" o amanuensis of his teacher, J. Müller, by the end of the third semester. Senator early won a large consulting practice, and was one of the physicians of the Emperor Frederick, but his chief distinction was as a teacher and investigator. His lectures were characterized by his power of clear exposition and his ready flow of language. On the celebration of his seventieth birthday one of his pupils collected the titles of nearly 200 articles published by him. Some of his works on legal medicine, neurology and various infections are regarded as classics, and his article on the changes after death from chloroform poisoning was so complete that C. Strauch in the *Berliner klin. Wochenschrift*, 1904, commented on this article that after forty years no essential advance over his description had been made notwithstanding the finer methods of investigation now at the disposal of medicine. The pathology of metabolism was Senator's special field, and in this he much increased the store of knowledge. He was one of the first to recognize auto-intoxication from the intestinal canal. He refused the charge of the pediatric clinic, after the death of Henoch, saying that he wished "to be a physician and not a specialist."

LONDON LETTER

(From Our Regular Correspondent)

London, July 8, 1911.

The National Insurance Bill

The profession is making great efforts for the removal of the objectionable features of the national insurance bill. The whole of England has been divided into large areas and medical committees appointed for each. These interview the local members of parliament and acquaint them with their views. There is every prospect that the struggle of the profession will be crowned with success. As stated in the previous letters to The Journal, the great bone of contention is the income limit of $800 for medical benefits, which the profession considers much too high. With practical unanimity the profession is opposed to any plan under which persons who can reasonably be expected to pay fees and do pay fees at present, should obtain medical attendance on the capitation system of the insurance bill. Although Lloyd-George at first regarded the demand of the profession on this point as impossible, he is now negotiating on it. In the many meetings of friendly societies which he has attended, and deputations which he has received, he has again and again referred to the great difficulties he has had with the profession and shown a desire to satisfy it, as far as possible. He has declared that it is important that the profession should work whole-heartedly in the scheme, and that members whose lives depend on skilful medical treatment should come in feeling that they have been well treated on the whole and given the best brains. It is reported that he has adopted a new scheme to satisfy the doctors on the question of wage limit. Under this, persons who can pay fees to doctors, but have medical benefit under the bill, are to continue to pay fees, but medical benefits are to be accumulated. When illness comes, these accumulated benefits will go toward paying the doctor and when they are exhausted, the patient will pay from his own resources. At the forthcoming meeting of the British Medical Association at Birmingham on July 21, a full statement will be presented to the representative meeting as to the position of the profession in relation to the bill. The subject will be further discussed by the whole association in the medical sociology section under the heading "Medical Aspects of the Poor Law Question with Special Reference to State Insurance and the Provision of Better Medical Attendance on the Poor by (a) Whole Time Medical Officers; (b) Provident Dispensaries and Other Forms of Contract Practice; (c) Private Medical Practitioners." On other points than the wage limit the chancellor has made important concessions to the profession. He is prepared to provide that the insurance commissioners should include at least one doctor who has had personal experience of practice in the class from which the insured would be chiefly drawn. He will also provide that the advisory committee shall include representatives of the profession, who have had similar experience, and that the number of medical members on the local health committee shall be increased by at least three, two of whom shall be directly elected by the local profession.

A Colonial Entomologic Research Committee

The great results in tropical hygiene achieved by the anti-mosquito campaign have caused attention in this country to be devoted to the entomology of our colonies, particularly in its economic aspects. The latest result of this movement is the establishment of a Colonial Entomological Research Committee. This was decided on at an important meeting of the representatives of the self-governing colonies, who are now present in this country for the conference. The object of the meeting was to discuss a scheme for the prevention of the spread of disease in agriculture and horticulture. Lord Cromer, the chairman, stated that it was proposed to establish a central organization in London for the transmission of information to various parts of the empire, for the promotion of a greater knowledge of insect-pests than exists at present. This information would be useful, no doubt, in preventing the spread of disease in animals and plants throughout our various dominions, and indirectly human life would be benefited.

Scientific Research Under Government Grants

The president of the local government board has authorized the following special researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease: (1) A research into the causes of premature arterial degeneration in man, by Dr. F. W. Andrewes, pathologist to St. Bartholomew's Hospital; (2) an inquiry by Dr. J. H. Thursfield of St. Bartholomew's Hospital into the causes of death in measles; (3) a comparison by Professor Nuttall, F. R. S., quick professor of biology at the University of Cambridge, of the number and kinds of fleas found on rats; (4) a continuation by Dr. C. J. Lewis of Birmingham University of his investigation into the degree of prevalence and the characteristics of microorganisms known as non-lactose fermenters in the alimentary canal of infants; (5) an investigation into the same subject by Dr. D. M. Alexander of Liverpool University; (6) an inquiry by Dr. Graham Smith of Cambridge University into the incidence of non-lactose fermenters in flies in normal surroundings and in surroundings associated with epidemic diarrhea; (7) a study by Dr. F. A. Bainbridge of the Lister Institute of the anaerobic bacteria in the alimentary canal of infants; (8) an investigation by Dr. Graham Smith into the possibility of pathogenic microorganisms being taken up by the larva and subsequently distributed by the fly.

The Medical Service of the Royal Navy

A committee to consider the conditions of service of the medical department of the Royal Navy, including medical officers, nurses and sick-berth staff, has suggested important reforms which will shortly be promulgated. The changes recommended and now approved are far-reaching and will, it is anticipated, bring contentment to the medical service of the premier fighting force of the nation. The new regulations provide not only for improved conditions of service in the medical department, but also for increased facilities for post-graduate professional study and accelerated promotion for those officers who show special merit. In Queen Alexandra's Royal Naval Nursing Service the age of entry has been raised, the rates of pay increased and an intermediate grade of superintending sister instituted. In the sick-berth staff, improvements are made as regards entry, training, examination and special allowances for certain special work. In the nurse profession of the army, similar reforms were made after the Boer war and have not only produced contentment but have raised the scientific level of the army doctor.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, June 30, 1911.

Personal

On June 27, the Académie de médecine elected a member in the section of medical pathology in place of Dr. Kelsch who recently died. Dr. Pierre Marie, one of the most distinguished pupils of Charcot, was elected. Dr. Marie is known especially for his work on the diseases of the spinal cord. Our knowledge of acromegaly, or "Marie's disease," especially, is due to him. Lately he has published a series of investigations tending to recast completely the classical doctrine of the localization of aphasia. Dr. Marie is now physician at the Salpêtrière. In 1908 he received the chair of pathologic anatomy at the Faculté de médecine de Paris, succeeding Professor Cornil.

Protection of Maternity

A bill has recently been introduced into the Chamber of Deputies to give all mothers of families employed in industrial establishments an hour a day for a year from each childbirth to suckle their children during working hours. This hour may be divided into two periods of thirty minutes each, which may be taken by the mothers at hours fixed by agreement between them and their employers. This hour may not be deducted in reckoning the day's wages. The sponsors of this bill urge the necessity of combating infant mortality, which is equal to that of tuberculosis. Statistics for the death-rate in 681 cities of France, including a total population of 13,190,721, shows that 167 out of every thousand deaths, about a sixth, are of infants under one year old, and 80 per cent. of these deaths are among the working population. This terrible coefficient rises in Lille to 274 per thousand, in Dunkirk to 342, in Nancy to 414, and in Saint-Pol-sur-Mer it reaches 509 per thousand; in other words, in this last city the mortality of infants under one year is more than half the sum of the general mortality. In searching for the cause it has been recognized that out of every thousand deaths of infants under one year, at least 766 might have been avoided, for 385, directly due to gastro-enteritis and diarrhea, are indirectly due to bad nutrition and especially to deprivation of the maternal breast, and 171, attributed to congenital debility, are really due to overwork of the mother during pregnancy and neglect of necessary hygienic precautions. In six years 220,000 children that might have been saved have died.

Consumption of Absinthe

In spite of the ravages caused by the consumption of absinthe it has not yet been prohibited. The senate has just received the report of the commission charged with the examination of the bill of M. de Lamarzelle to prohibit the manufacture and sale of absinthe. The commission has approved the bill which prohibits under a penalty of from $20 to $400 (100 to 2,000 francs) the manufacture, the sale, the transportation, the storage for the purpose of sale and the importation of all drinks or alcoholic liquors containing thujol, essence of absinthe. The law will go into effect two years after promulgation, except as regards importation, which will be immediately prohibited. According to official communication the known consumption was in 1872, 6,713 hectoliters, 10,150 hectoliters in 1878 and 18,000 hectoliters in 1880. From that date on the consumption of absinthe increased prodigiously and regularly until it reached 238,467 hectoliters in 1900, since which time consumption has declined a little, varying between 160,000 and 207,000. It was about 172,116 hectoliters in 1910.

Hygiene of Illumination

The Ministry of the Interior has organized a technical committee on natural and artificial illumination, presided over by Dr. Gariel, professor of physics at the Faculté de médecine de Paris. This committee is (1) to study from the point of view of general and ocular hygiene the various modes of artificial illumination at present in use; (2) to determine the composition and the hygienic qualities of the various artificial lights and in the case of the lights produced by combustion, the harmful gases and the heat developed; (3) to fix the minimum quantity of artificial light compatible with the normal function of the eye; (4) to establish the most practical means of measuring luminous intensity; (5) to establish the best rules of application of the methods of artificial illumination at present in use for each class of the principal industries; (6) to present to the department a report of the relations of myopia and blindness and the best means of removing the causes of myopia.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, June 29, 1911.

The Imperial Insurance Bill

The society of German physicians at its meeting of June 23, the annual Aerztetag, which had been awaited with the most earnest expectations with reference to the position to be taken in regard to the proposed imperial insurance law, adopted a resolution which has fully met the hopes which I have previously expressed. The fears of the friends of the medical profession and the hopes of their opponents that the organization would put itself in opposition to the social legislation and hinder the participation of physicians in carrying out the new reform have fortunately not been fulfilled. On the other hand, the meeting proposed a scheme for an organization which will serve to regulate the relations of physicians with the Krankenkassen and will better matters so far as the free choice of physicians is concerned. For this purpose a general contract bureau is proposed, to be arranged by the insurance committee of the society in conjunction with the executive committee of the Leipsic league for testing all contracts of physicians with the Krankenkassen. It is to be the duty of the existing local bodies for examining these contracts to transmit every contract to this central bureau and to accept a contract only after it has received the sanction of the central body. which will insist on the following provisions: *a*, to promote and extend the free choice of physicians in accordance with local conditions; *b*, to provide for an adjusting committee for disputes arising from the contracts, in which both sides shall be equally represented and for the discussion of all common affairs and to act as an arbitration tribunal; *c*, to make provisions for the arrangement of courts of appeal; *d*, provisions to render impossible treatment by quacks at the expense of the Krankenkassen; *e*, provisions for fees for medical work according to the time occupied, and *f*, to hinder the annihilation of private practice, especially in country districts, that is threatened by the raising of the insurance limits and the extension of insurance privileges to those able to pay, and to ensure that persons who have a total income exceeding $500 (2,000 marks) shall pay for medical attendance, according to the methods and with the fees used in local private practice. The Leipsic league will lend its aid to the local organizations in carrying out these provisions, and in conjunction with the business committee and the assembly of delegates will give directions for the provisions of contracts to the bureaus for examination of contracts and the societies, and will communicate to them the measures which must be employed in case the demands of the physicians meet with opposition on the part of the insurance authorities. The hope may be expressed that this well-thought-out resolution may receive recognition from the government and that the decisiveness with which the medical profession is willing to take in hand the regulation of the affairs of insurance physicians according to a uniform plan will contribute to prevent the continuance of the previous frequent disagreements between physicians and the insurance societies. To the Leipsic league belong about 24,000 physicians, which is more than 95 per cent. of the entire German profession. May 1 the league had ten national and provincial departments, 129 sections, 20 local groups, sixteen groups of assistants, 1,088 superintendents and thirty-three superintendents of employment bureaus for assistants and universities. Its activity as agent for filling medical vacancies is shown by the fact that in the last year 3,000 positions open to physicians were provided for. So far the league has taken part in not less than 1,000 disputes with the Krankenkassen, of which 920 were decided in favor of the physicians, thus failing in only eighty.

Regulation of School Medical Examinations

The Prussian minister of education has issued the following order in regard to school examinations: 1. The examination of children, especially with exposure of the body, may be made only when the parents make no objection. In general. an exposure of the back and breast will be sufficient. 2. In the examination of girls a male teacher must never conduct the examination, but always a female teacher, or in case there is no female teacher another suitable woman (such as an industrial instructress, or the wife of the teacher) must make the inspection. 3. The examination of children must be conducted singly. If a special room is not available, a screen shall be used that will hide the undressed child from the view of the others.

Exclusion of Children from Moving Picture Shows

The chief of police of Berlin has issued an order that children under 14 are forbidden from visiting moving picture shows after 9 p. m., even when accompanied by adults. The chief has provided by this order against the dangers that threaten from pictures that exert a brutalizing and exciting action on young minds. As this danger was not sufficiently avoided by very thorough supervision it was necessary to make the prohibition complete. The attempt of the owners of the theaters to remove this prohibition with the help of the courts has been of no avail, as the highest Prussian court has decided that the order is entirely legal. This step of the Berlin chief of police has been followed by the provincial authorities. Some time ago the police received the general right from the authorities to forbid the exhibition of unsuitable cinematographic films, especially when young persons are admitted. As the moving picture firms often conceal from the provincial police officials the fact that many films are prohibited in Berlin, in future a list of the interdicted films will be published twice in the Prussian Central Police Journal, the *Preussische Zentralpolizeiblatt.*

Ernst v. Leyden Foundation

In order to secure larger funds for the investigation and extinction of cancer, the German central committee for cancer research comes before the public with an appeal to create a foundation which is to be known as the Ernst v. Leyden foundation for cancer research and repression. By bearing the name of the dead scientist it will fulfill the purpose of a memorial offering to one who gave a new impulse to the campaign against this disease. We scarcely believe any great interest in this foundation will be manifested in Germany. Modern investigations have, to be sure, thrown much valuable light on the general pathology of malignant growths, but the darkness has not been lessened in the most important fields of etiology and therapy. On account of this relative failure no great inclination exists in the public mind to devote more money to this purpose. Not even the name of Leyden himself will afford sufficient attractive force for the purpose.

Effect of the Social-Democratic Boycott on Spirits

As I have noted several times, the social-democratic party two years ago decided to boycott alcohol as a weapon in their fight against the landowners and as a hygienic propaganda. According to official statistics of the alcohol industry in Germany, it appears that the resolution has been successful. To be sure such calculations should be made with caution, as many factors, not always evident, affect economic changes. According to the statistics in the trade year of 1909-10, only 1,783,027 hectoliters of spirits for use as beverages were put on sale as compared with 2,650,622 in 1908-9. This is a reduction of 867,595 hectoliters (66,265,550 gallons). We thus had a consumption of 2.8 liters of spirits per capita for drinking purposes as compared with 4.2 liters in 1908-9, a reduction of 1.4 liters below that of the previous year, or exactly one-third. In the last twenty years, the consumption of spirits has varied between 3.8 and 4.7 liters per capita, so that the differences from year to year have been at the most 0.3 liter. Probably the reduction will continue for the trade year 1910-11, for the excise taxes on spirits for the fiscal year 1910 were only 153,000,000 marks, while the revenue from this source in 1909 was 187,000,000 marks, a difference of $8,500,000.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, July 5, 1911.

Celebration of the Fourth of July by the American Physicians in Vienna

Fourth of July was celebrated by the American physicians of Vienna this year by an excursion to Baden, a charmingly situated health resort with numerous hot sulphur baths, some twenty miles south of Vienna. Upward of 200 doctors, with their wives, also several children, were brought by special train to the watering place, where representatives of the municipality and of the medical societies of this place received the honored guests. The day was spent partly in the beautiful surroundings, partly in the park, where a baseball game was arranged. A trip to the interesting hot sulphur springs, to the hydrotherapeutic and the other medical institutions of Baden formed an instructive diversion after dinner and supper. Needless to say that the doctors were well cared for by the municipality of the bathing place, the mayor (*Burger-*

meister) of which is also a medical man. Besides, a reception took place at the American Embassy, in which also a large percentage of the American doctors staying at present in our city were welcome visitors.

Statistics Regarding Suicide in Vienna

The first half year of 1911 has shown for the first time in fifteen years a decrease of the number of suicides, and also of the attempted suicides. The figure was 265, or 10 per cent. less than any other half year since 1896; 188 men, seventy-three women and four children (three boys and one girl) killed themselves. The latter figure is the more startling as the suicides of children are increasing in frequency. The youngest of these was 9 years old, the oldest 14 years. These victims were mostly driven to desperation by fear of punishment from school, a fact much commented on in the papers. It is interesting to note that the winter months and the gloomy early spring days bring fewer attempts at suicide than the glorious days of May and June. This has been noted for our country for a series of years. No satisfactory explanation is yet given. The oldest person who killed himself was 87 years, and the highest number of suicides was fifty-seven in May and fifty-one in June (twenty-two and seventeen women, respectively).

The First-Aid Corps in June

The Wiener freiwillige Rettungsgesellschaft (Voluntary First-Aid Corps of Vienna) has intervened in the month of June in 3,187 cases of sudden disease or accidents. Of these, 108 were more or less successful attempts at suicide, forty-seven cases of madness, thirty-three cases of persons found dead and eleven cases of malingering, while 1,139 injuries were taken care of by the officers of the corps, who besides assisting in 650 instances of attacks of disease in the streets (apoplectic attacks, heart failure, etc.), had to attend in eight large gatherings of people on account of the elections to parliament. Since the existence of the corps, 256,390 persons were attended to.

Gymnastics for Middle Schools

The school board for lower Austria has instructed all head teachers of the lower and middle schools to pay special attention to light athletic sports and gymnastics for the youths of 10 to 18 years in the open air. Eighty to 100 boys will form gymnastic classes and a novel experiment will be the self-government of these classes. The two new groups of open-air exercises are swimming and ball games, including football, while running, fencing and gymnastics with apparatus are already at present much favored in our schools. Winter sports will also be taken up in the program; sledges and skating, as well as marching and excursions into snow regions on skis. Shooting will not be made compulsory, but it will be encouraged by the teaching staff. The pupils will also be encouraged to walking exercises, excursions lasting from one to three days with camping out, and the vicinity of mountains will be made use of by judicious mountain climbing. Practical teaching in combination with these outdoor exercises is earnestly recommended. For the purpose of obtaining funds necessary for the apparatus, small sums will have to be paid by those of the pupils who can afford to do so, 2 to 10 kronen (40 cents to $2) being the limits. Arrangements have been made with public baths, transport societies and like institutions to permit frequent use of the respective properties. Exemption from the light exercises will be granted only on medical advice while the more difficult exercises are optional.

Miscellany

Careful References Save Time.—F. A. McDermott writes in *Science* (June 2, 1911), that it has been his duty, during the past two or three years, to compile, or to assist in the compiling of, a number of extensive bibliographies and lists of references to the literature of various chemical subjects, and during this work it has been often impressed on him with what laxity and apparent disregard of consequences some authors handled—or failed to handle—their references to prior work. The same difficulty is all too often experienced when looking up some apparently simple subject. For instance, an article was recently desired by a chemist employed in certain synthetic work, describing a method for the reduction of certain compounds, referred to in a scientific paper, without further information, as "Ladenburg's" method. Persistent search of the indexes of the journals where the paper would most probably have appeared yielded only a brief polemic note, which made no reference to the appearance of the original paper. The proper method was finally found as a side issue in a paper on oximes, through the use of a very recent hand-book of laboratory methods, the author of which had very probably gone through the publications of Lanenburg until he struck this article. Had the author of the paper from which the reference (?) mentioned in the first sentence of this paragraph taken half a minute's more time and given this reference, he would have saved others literally hours of searching. Another instance: Certain important and excellent work was recently done in Philadelphia on methods of sewage disposal. As one feature of this work, a large number of determinations of the amounts of nitrates present were made by what was referred to as "McRae's narcotin test," no reference or description of the method being given. It became necessary elsewhere to find the details of this method, and it so happened that the usual chemical abstract journals had missed this paper. As a last resort, the "Index Medicus" was looked through and finally a reference to the paper was found, though even here the citation given was not the one where the paper would usually be most easily found. Had the author of the report of the Philadelphia experiments given a half-line reference to the place of publication of this method, he would have saved an hour or more of the time of one or two men in a busy laboratory. Fortunately, cases of the total omission of an important reference are comparatively rare, though the embarrassment and additional work caused by such omissions is quite sufficient to warrant their being judiciously guarded against. More frequent, and sometimes equally troublesome are the cases in which erroneous page, volume or year numbers are given, or sometimes even an erroneous journal or book name. A recent case was that of an author who referred some eight or nine times in a paper of four pages, to the work of another author "Schreiber"—"Schreiber's" correct name was "Fleischer."

Prevalence and Distribution of Small-Pox.—The last government report on public health (June 23, 1911) contains a review of the general prevalence and geographic distribution of small-pox during 1910. The most notable feature of this disease has for the last ten years been its extreme mildness and low death-rates in this country, as compared with reports from abroad. There is, however, a considerable increase since 1909, in both the number of cases and the number of deaths. From all reports available, including those states from which only local reports have been received, it is seen that the number of cases reported have increased by one-fourth (from 24,099 in 1909 to 30,352 in 1910) and the number of deaths have almost trebled (from 150 in 1909 to 415 in 1910). There have during the year been quite a number of severe outbreaks, and the question arises as to their source, whether they are instances of infection from abroad, or if the mild strain of the disease under certain conditions becomes virulent. Utah shows the highest case-rate in 1910, as in the preceding year. The most notable increase in a single state took place in Florida, which for 1910 reports 1,286 cases against 3 cases in 1909. The statistical material of this report was available for only twenty-six states and the District of Columbia.

Susceptible Protoplasm.—It is an incomplete statement to say that the tubercle bacillus is the cause of tuberculosis, or alcohol the cause of delirium tremens, says Dr. C. B. Davenport (*Pop. Sc. Month.*). Experience proves it, for not all drunkards have delirium and not all that harbor the tubercle bacillus die of consumption—else we must all die of that disease. No, the causes of death as given in the health reports or census bulletins are not the real causes. All of these results are due to an inciting condition acting on a susceptible protoplasm. The real cause of death of any person is his inability to cope with the disease germ or other untoward condition.

Scarcity of Physicians in Russia.—According to figures published by the St. Petersburg *Herold*, June 15, 1911, European Russia has only 1 physician to 8,000 inhabitants, while the proportion in France is 1 to 2,630 inhabitants, in England 1 to 1,730 [and in the United States 1 to 650]. In Siberia there is only 1 to 15,200 inhabitants and in the Caucasus only 1 to 20,000. The physicians in Russia are mostly congregated in the cities; at St. Petersburg the proportion is 1 to 700 inhabitants; in the country it ranges from 1 to 27,000—the generally prevailing proportion in European Russia outside of the towns—to 1 to 91,600. This scarcity of physicians explains, the *Herold* says, the high mortality in Russia outside of the towns and the unchecked spread of epidemics. The single physician is powerless in face of such extremely unfavorable conditions and, besides this, he has to contend with the dense superstitious ignorance of the people. The medical schools turn out only a few hundred graduates each year, the number having progressively declined from 1,078 in 1898 to 798 in 1907.

Jewish Attitude Toward Hygiene.—The preservation of physical well-being is looked on in Judaism as a religious command. The neglect of one's health was regarded as a sin; and the Nazarite who vowed to abstain from wine was considered a sinner, as well as he who fasted or underwent other penance, without reason. There was not a distinct department of public health in the government of the ancient Jews. The charge of infectious diseases, such as leprosy, and of epidemics of all kinds, was delegated to the priests, who acted as the physicians. The Talmud mentions the office of a physician in the temple, whose duty it was to look after the health of the priests. In later times every town counted among its permanent officials a physician who supervised the circumcision of children and looked after the communal well-being. A scholar was forbidden to live in a city where there was no physician. For domestic sanitation the commandments given in the Bible direct the covering of the blood of a fowl or of a wild beast with dust, and the covering of excreta with earth, and the appointing of a special place outside of the camp for depositing the excreta. In order to prevent the spread of leprosy, a complete system of quarantine laws was developed in the Levitical code. From the data of various writers, it is reasonable to conclude that biblical and modern leprosy are, in all probability, not the same disease, the former not being considered contagious, the segregation of lepers being regarded, at any rate, at certain periods, more in the light of a religious ceremonial than as a hygienic restriction. The numerous laws of purity and health scattered throughout the Bible were afterward regarded as important factors, and the system of bath ablution which forms a large portion of the Jewish laws of cleanliness has had a marked influence on the physical health of the people, so that in epidemics they have frequently been immune.—Dreyfus in *Jour. Am. Pub. Health Assn.*

Finger-Prints and Identity.—It is thought that the epidermic ridges of the fingers and palms, as well as the soles of the feet, are a survival of the pads or permanent callosities of the mammalian paw which bear the weight in walking. In the typical paw there are five pads at the ends of the digits and five on the surface of the palm or the sole. In monkeys, where the habit of climbing instead of walking makes requisite a delicate organ of touch, the pads have become flattened and their hard covering replaced by a soft epidermis, whose lines and ridges show the positions of the pads by scroll and whorl patterns. In man, the arrangement of these ridges has become of secondary importance: a standard form is no longer maintained, and individual variation has enormously increased. It is this high degree of individual variation which is important from the standpoint of identification. It is, practically speaking, infinite. Not less important is the fact that the patterns are formed in embryo, and from the sixth month of uterine life remain unchanged until the destruction of bodily tissue. A system of classification of the digital ridges was first devised by Galton, and has been elaborated by many workers, notably the Argentine, Vucetich. In some form dactyloscopy, so called, has largely superseded the Bertillon system in police work. It requires, however, study and experience as well as intelligence in operation. An American, Dr. H. H. Wilder, has proposed the extension of the observations to the palm of the hand and to the sole of the foot. The advantage of this is that the variation in these surfaces is greater and the details larger and more obvious. From the scientific standpoint, therefore, finger-prints offer strong evidence of identity, though only properly available in trials through expert testimony.—*Journal of Criminal Law and Criminology.*

The Doctor on the Witness Stand.—In an article of practical advice, not on expert testimony, but on the deportment of an ordinary physician on the witness stand, the *Medical World* says: Never permit yourself to take sides; simply tell the straight truth; it is up to the jury to form opinions as to the merits of the case, and it is not anybody's business what your personal opinion is. Do not tell a long story. Keep the attorney asking questions. Answer each as tersely as possible and then stop. Study well beforehand any anatomic or physiologic points that will come up, and then you will not need to let any attorney frighten you by an apparent grasp of medical subjects. Tell nothing but what you know to be a fact. The attorney may try to tempt you into turning a guess into a statement of fact, and then he will have the advantage of you. Never say that you have read a certain book; say you have read parts of it, lest the lawyer expect you to be perfectly familiar with the whole book. Be polite, professional and courteous and demand the same consideration.

Treatment of Psychoses.—It has been the experience of F. W. Robertson (*Monthly Cyclopedia and Medical Bulletin*, May, 1911) in the treatment of the psychoneuroses where the power of attention has not been too much disturbed, that well-selected amusements, card-playing, games, some of the plays, or conversation on subjects which arouse the patient's interest frequently have a most beneficial effect. A visit for a week with friends, or a change of location, he has found will also often work wonders as a recuperative agency. In many instances, when treating patients in their homes, he has found it unwise to relieve women altogether of the light household duties, or the men of outdoor games or moderate exercise. To his mind, both as a means of exercise and occupation, the crying need of our hospitals and sanatoriums to-day is for properly equipped workshops and amusement rooms for men and women. Added to the benefits to accrue from the exercise and occupation afforded (occupation being used in the sense of a pastime), would follow the disciplinary effect on the patient, which would be a curative measure not at present sufficiently recognized, and one which he believes to be of inestimable value. For example, if (selecting proper cases) women were taught basketweaving, millinery, dressmaking, the lighter forms of woodcarving, drawing, painting, clay modeling, hammered brass and metal working; and if the men were taught pipefitting, patternmaking, mechanical drawing, carpentry, modeling, gardening, stenography, typewriting, painting (signs or frescoing), and both men and women were to have a choice of work, Robertson believes our institutions for the treatment of mental diseases would speedily be transformed.

The Cause of Pellagra.—In the theory advanced by George C. Mizell (*Atlanta Journal-Record of Medicine*, June, 1911), the attempt is made to establish an etiologic relationship between cotton-seed oil and pellagra. He says that the cotton-seed oil industry parallels the development of pellagra in the United States. Occasional cases may have occurred before this period from eating lard obtained from hogs fattened on cotton seed or through eating adulterated olive oil. From a historical standpoint this accounts for pellagra in every region for all time. A visit to the hospitals will show that there many patients develop the erythema on exposure to the sun. Further, many patients do not develop the erythema because of certain individual characteristics such as exert an influence on and determine the other clinical features of the disease, in different individuals. Different people take on or lose different amounts of fat from the same diet. For some such individual characteristics everyone who is exposed to the cause of pellagra may not develop the disease. Mizell's investigations tend to show that the length of time between the beginning of eating cotton-seed oil varies according to the preparation used and, perhaps, individual characteristics. This period of time may be a few months or several years. Certain communities use almost entirely one brand. Others do not use cotton-seed oil at all. In some sections the people began the use of cotton-seed oil when the price of lard advanced in 1908. Many people began its use for the sake of economy; others because it was supposed to be more wholesome. Many people still buy and use lard. Pellagra in Georgia is limited to no section or class. Only individual characteristics determine immunity. Pellagra, then, in Mizell's opinion, is a disease due to eating semi-drying oils in quantities that cannot be disposed of normally, in which case they are deposited as fat foreign to the human organism, and in their final disposition by oxidation there is developed a series of end-products that act in a deleterious manner on all the cells and intercellular tissues of the body. The treatment proposed by Mizell is based on what he believes to be the biochemistry of the disease. Sulphur antagonizes the oxidation of linolin. Calcium given in combination with it is especially indicated; hence, as a specific agent, he gives calcium sulphid. Given in doses of one-half to 2 or more grains, three or more times daily, it shows its effects in a few hours. He began the use of calcium sulphid eighteen months ago and has never been disappointed in the results. That it does not relieve all cases is due to the fact that some are complicated by a long-standing gastro-intestinal lesion which antedates the onset of pellagra by a more or less long period of time. Mizell advises against the use of fats and oils of every kind, except castor oil.

Marriages

Edward Chauncey Register, M.C., U. S. Army, to Miss Jeannie DuBose Hayward at Sullivan's Island, Charleston, S. C., June 1.

Albert Patton Clark, M.C., U. S. Army, to Miss Mary Catherine Gannon of Washington, D. C., at New Orleans, June 24.

John Edward Wilson, M.D., Natick, Mass., to Miss Harriet H. Greene of Southington, Conn., at Colorado Springs, July 6.

Joseph Royal Phelps, M.D., U. S. Navy, to Miss Helen Alfredia Mansfield of Newton Highlands, Mass., July 1.

William J. Durant, M.D., Spencer, Iowa, to Miss Anna Mable Seemann of Greenville, Iowa, July 2.

Harry Alonzo Sibley, M.D., Pontiac, Mich., to Miss Alice Sanford Wixom of Wixom, Mich., June 7.

Walter E. Egbert, M.D., to Miss Anna Davis Mahon, both of Chester, Pa., June 30.

Samuel A. Dickson, M.D., to Miss Bula Dillingham, both of Shreveport, La., July 7.

Deaths

William Bailey, M.D., *one* of the oldest practitioners of Louisville and president *of* the Kentucky State Board of Health since 1909, died at his home in Louisville, July 15, aged 78. He was born in Bridgeport, Ky., and was graduated from the Kentucky Medical Institute near Frankfort as B. A. in 1853, and a year later the honorary degree of M. A. was conferred on him. For three years he acted as a professor of mathematics in his alma mater. *He* was graduated from the Kentucky School of Medicine in 1857 and seven years later had conferred on him the degree of M.D. by the University of Louisville. He practiced in Shelbyville, Ky., until the opening of the Civil War, throughout which he served as major and surgeon with the Ninth Kentucky Volunteer Cavalry. His college work commenced in 1869. He occupied successively chairs in the Kentucky School of Medicine, the Hospital School of Medicine, of the faculty of which he was president, and at the time of his death was the professor of materia medica and therapeutics in the University of Louisville. He was a member of the American Medical Association, president of the American Public Health Association in 1894, president of the state medical society and many other local societies of which he was a member. He was a member of the State Board of Health of Kentucky for twenty-six years and its president at the time of his death. He was also a member of the local board of pension examiners for many years. His illness commenced in December last when he fell and sustained an intracapsular fracture of the humerus. Soon after he had a cerebral hemorrhage. He improved after this, but a malignant growth of the mouth developed, which caused his death. Although honored by his professional confrères in every possible manner, Dr. Bailey was a man of very modest disposition; he was clean in his profession and pure in his life, was devoted to his family and beloved by all who knew him.

Sewell Matheson, M.D. Long Island College Hospital, Brooklyn, 1895; for several years an instructor in his alma mater; a member of the Medical Society of the State of New York; resident physician of the Manhattan Lying-In Hospital; demonstrator of operative surgery at the Post-Graduate Hospital; physician to the Frauen Klinik; assistant gynecologist at the Williamsburg Hospital; instructor in obstetrics at the Brooklyn Post-Graduate Medical College, and assistant obstetrician and later attending surgeon at Seney Hospital; died at his home in Brooklyn, from typhoid fever, complicated by pneumonia, aged 41.

Edmund L. Cocks, M.D. Bellevue Hospital Medical College, 1885; a member of the American Medical Association and New York Academy of Medicine; former president of the Harlem Medical Association, chief of th[illegible]s of the Fordham and Harlem hospitals, [illegible] to Randall's Island Hospital, and assistant dermatologist to the New York Skin and Cancer Hospital; who was overcome by heat while conducting a clinic at Harlem Hospital, June 30; died at his home in Rockaway Park, Long Island, July 5, aged 55.

Edward Shippen, M.D. University of Pennsylvania, Philadelphia, 1848; medical director U. S. Navy, with rank of rear admiral, who entered the navy in 1849, and after thirteen years and four months of sea service and twenty-two years and one month of shore and other duty, was retired in 1888, on attaining the age of 62 years; author of numerous instructive and interesting works regarding naval life and history; died at his home, Chestnut Hill, Philadelphia, June 16, aged 85.

Pern Almyr Wakefield, M.D. Rush Medical College, 1899; a member of the Wisconsin State Medical Society; local surgeon for the North-Western Railway at West Salem, Wis.; physician and surgeon to the LaCrosse County Hospital for the Insane; died at his home in that city from heart disease due to over-exertion in fighting the fire which destroyed the business section of that town, July 2, aged 35.

Enoch Edgar Hume, M.D. University of Louisville, 1869; Bellevue Hospital Medical College, 1875; a member of the American Medical Association; formerly a member of the legislature from Anderson County, Ky.; prominent as an educator and for many years a trustee of the State Normal School for Negroes, Frankfort; died at his home in that city, July 4, from nephritis, aged 67.

Madana Fuller De Hart, M.D. New York Medical College and Hospital for Women, New York City, 186—; said to have been the first woman practitioner of New Jersey; founder of a free dispensary for women in Jersey City; for several years a member of the board of managers of the State Home for Girls; died at her home in Mount Freedom, N. J., June 22.

Linus Shephard Ludington, M.D. Metropolitan Medical College, Eclectic, New York City, 1854; adeundem Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882; a veteran of the Civil War; a member of the common council of New Britain in 1873; said to have been the oldest practitioner of Connecticut, died at his home in New Britain, July 3, aged 92.

John Frederick Sprink, M.D. John A. Creighton Medical College, Omaha, 1906; a member of the Iowa State Medical Society; assistant professor of histology in his alma mater; president of the staff of Mercy Hospital, Council Bluffs, and secretary of the Council Bluffs Medical Society, was found dead in his office, July 2, from heart disease, aged 33.

Henry Van Tyle Passage, M.D. Rush Medical College, 1861; Bellevue Hospital Medical College, 1868; a member of the Indiana State Medical Association; formerly representative in the state legislature from Miami County; for four years secretary of the local pension board of Peru; died at his home in that city, June 15, aged 75.

George M. Haines, M.D. College of Physicians and Surgeons, New York City, 1870; a member of the American Medical Association; for thirty-three years a practitioner and once mayor of Durand, Ill.; once vice-president of the Winnebago County Medical Society, died in Grand Junction, Colo., July 5, from nephritis, aged 64.

Crown Torrence, M.D. University of Nashville, Tenn., 1898; a member and once second vice-president of the South Carolina Medical Association; formerly president of the Union County Medical Society; a specialist on diseases of the eye, ear, nose and throat, of Charleston, died at his home in that city, July 8, aged 36.

Jefferson Cooperrider, M.D. Cincinnati College of Medicine and Surgery, 1885; of Madison, Ind.; a member of the Indiana State Medical Association and a specialist on diseases of the nose and throat; a veteran of the Civil War; for many years secretary of the local board of health; died at his home, July 3, aged 72.

William D. Van Antwerp, M.D. Miami Medical College, Cincinnati, 1876; for several years a member of the local board of pension examining surgeons of Mount Sterling, Ky.; a veteran of the Civil War; died at his home, near Mount Sterling, June 28, from nephritis, aged 70.

Francis H. Mansfield, M.D. Long Island College Hospital of Brooklyn, 1893; chaplain of the One Hundred and Thirty-Second New York Volunteer Infantry throughout the Civil War; a clergyman since 1860; died at his home in Brooklyn, July 2, from cerebral hemorrhage, aged 76.

Daniel F. Summey, M.D. New York University, New York City, 1860; a surgeon in the Confederate service during the Civil War; one of the founders of the Buncombe County (N. C). Medical Association; died at his home in Leicester, June 13, from heart disease, aged 84.

Harry B. McKlveen, M.D. College of Physicians and Surgeons, Chicago, 1890; formerly of Coin, Iowa, and Junction City, Kan.; died in Los Angeles, Cal., January 21, from the effects of an overdose of chloroform, taken to relieve the pain of otitis media, aged 41.

Edward A. Hotchkiss, M.D. McGill University, Montreal, 1904; of Hartford, Conn.; a member of the Connecticut State Medical Society, and assistant secretary of the Hartford Medical Society, died in the Hartford Hospital, July 2, from typhoid fever, aged 28.

Lucy Hughes Brown, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1874; said to have been the only colored woman physician of South Carolina; one of the founders of Cannon Hospital and Training School in Charleston; died at her home, June 26.

Matthias Muhlhausen, M.D. Medical College of Evansville (Ind.), 1854; one of the founders of St. Mary's Hospital in that city; a founder, director and for twenty-seven years president of the Peoples Bank, died at his home in Evansville, July 3, aged 78.

Carl H. Lellmann, M.D. University of Göttingen, Germany, 1854; a member of the Medical Society of the County of New York, of New York City, consulting physician to the German and St. Francis hospitals; died in Karlsruhe, Germany, June 21, aged 79.

Stephen H. Barham, M.D. University of Louisville (Ky.), 1875; a veteran of the Civil War; for many years a member of the local district medical examining board, died at his home in Nacogdoches, Texas, June 30, from acute nephritis, aged 69.

Joseph H. Aleshire, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1877; for thirty-two years a practitioner of Plainville, Ill.; a member of the Adams County Medical Society, died at his home, June 24, from heart disease, aged 62.

Franciscus Brunning, M.D. Medical College of Ohio, Cincinnati. 1867; a member of the American Medical Association and one of the most prominent specialists on internal medicine of Cincinnati. died at his home in that city, July 9, aged 65.

James B. Eby, M.D. University of Pennsylvania, Philadelphia, 1886; formerly a member of the American Medical Association; president of the First National Bank of Newport, Pa.; died at his home, June 21, from locomotor ataxia, aged 71.

Charles W. Eastman, M.D. Detroit College of Medicine, 1904; a member of the American Medical Association, and a practitioner of Three Oaks, Mich.; died at Epworth Hospital, South Bend, Ind., July 4, from typhoid fever, aged 32.

Charles Park Donelson, M.D. University of Michigan, Ann Arbor, 1872; member of the American Climatological Association and Michigan State Medical Society; of Muskegon, Mich.; died at Hackley Hospital in that city, July 5, aged 64.

Jacob W. Wells, M.D. Rush Medical College, 1891; assistant physician to the Iowa Hospital to the Insane; surgeon of the Rock Island System and president of the board of health of Ossian, Iowa; died at his home from heat exhaustion, July 2, aged 43.

Ralph Ernest Gallinger, M.D. Dartmouth Medical Schoo Hanover, N. H., 1897, of Concord, N. H.; a member of the American Medical Association; was killed in an automobil accident near Pembroke, N. H.,.July 11, aged 39.

John S. Laughead, M.D. Ensworth Medical College, St Joseph, Mo., 1904; a member of the South Dakota State Medical Association; of Letcher; was drowned recently while wading in the James River, near Letcher.

Walter Silas Eldridge (license, years of practice, Maine) of Portland; for thirty-four years a practitioner of that state; a veteran of the Civil War; died in Groveton, N. H., June 17, from chronic bronchitis, aged 66.

Hamlet Hart, M.D. University of Michigan, Ann Arbor, 1878; died at his home in Eureka, Mich., July 12, from the effects of an abscess of the left kidney, followed by a general breakdown, aged 69.

William J. Bell (license Arkansas, 1903), of O'Neal; a member of the Independence County (Ark.) Medical Association; died at his home in Bethesda, March 11, from senile debility, aged 80.

William Oscar Prosser, M.D. McGill University, Montreal, 1874; of Eugene, Ore.; a member of the Oregon State Medical Association; died in Chicago, July 1, after a surgical operation, aged 50.

James E. Gross, M.D. Hahnemann Medical College, Philadelphia, 1850; for many years a practitioner of Chicago; died in Washington, D. C., July 9, from cerebral hemorrhage, aged 85.

Eliry M. Marshall, M.D. Eclectic Medical Institute, Cincinnati, 1897; of Albion, Pa., was killed instantly, June 25, in a collision between his automobile and a freight train, aged 33.

Robert J. Steele, M.D. Louisville (Ky.) Medical College, 1888; a member of the Arkansas Medical Society, died recently at his home in Morrillton, and was buried, June 20, aged 47.

Henry F. Horstman, M.D. University of Pennsylvania, Philadelphia, 1873; a director of St. Vincent's Orphan Asylum, died at his home in Philadelphia, July 5, aged 65.

Leonidas Bruce Arnold, M.D. Bellevue Hospital Medical College, 1871; formerly a surgeon in the Army; died at his home in Omaha, July 4, from heat exhaustion, aged 65.

William George Fitzsimmons, M.D. Baltimore Medical College, 1904; a member of the Ohio State Medical Association; died at his home in Steubenville, June 26, aged 26.

W. I. Beamer, M.D. University College of Medicine, Richmond, Va., 1896; of Laura, Ill.; died in Proctor Hospital, Peoria, Ill., July 6, from nervous disease, aged 38.

Gordon B. Meldrum, M.D. Denver (Colo.) College of Medicine, 1899) of Buffalo, Wyo.; died suddenly in Omaha, July 7, after an operation for appendicitis, aged 37.

Robert H. Gantt, M.D. University of Maryland, Baltimore, 1909; first lieutenant, Medical Corps, U. S. Army, died at Fort Sam Houston, Texas, June 11, aged 28.

Alexander C. Paisley, M.D. Western Reserve University, Cleveland, 1893; died at his home in Cleveland, July 2, from disease of the throat, aged 41.

I. M. Selby, M.D. (license, years of practice, Iowa, 1886); for many years a practitioner of Elliot, died at his home in Odebolt, June 10, aged 61.

John Ward Hill, M.D. Jefferson Medical College, 1857; died at his home in St. Petersburg, Fla., June 17, from cerebral hemorrhage, aged 75.

John I. Bradley, M.D. University of Louisville (Ky), 1886; died at his home in Camden, Tenn., June 24, from cerebral hemorrhage, aged 61.

William L. Hockaday, M.D. Jefferson Medical College, 1866; died recently at his home in Richmond, Ky., and was buried, June 15, aged 64.

Thomas H. Wilde, M.D. Long Island College Hospital, Brooklyn, 1906; died at his home in Baldwin, Long Island, July 4, from pneumonia.

Duncan M. Broach, M.D. University of Tennessee, Nashville, 1897; of Coupland, Texas; was shot and killed at Mumford, Texas, June 26.

Susan Silver Diffenbacher (license, Iowa, years of practice, 1888); died at her home in Creston, July 2, from tuberculosis, aged 64.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

IODONUCLEOID

An Iodin Product Under a Misleading Name

To the Editor:—Please give me information with regard to iodonucleoid. A friend of mine with disease of the internal ear writes me that he is taking twelve pills daily without upsetting his stomach. I suspect that the medicine, like most iodin preparations, is a fraud, but find it purports to be recommended by physicians, as you will see from enclosed circular.

GEORGE MINGES, M.D., Lakeside, Cal.

As iodonucleoid does not appear in New and Nonofficial Remedies, the Association laboratory was asked to report as to the nature of this preparation. The following is its reply:

This preparation was at one time considered for inclusion with New and Nonofficial Remedies, and at that time it was examined in this laboratory. The examination showed that iodonucleoid contains:

Phosphorus	0.79 per cent.
Calcium (Equal to 0.6 per cent. CaO).	0.43 per cent.
Iodin	24.2 per cent.

When 2 gm. was dissolved in tenth-normal potassium hydroxid volumetric solution and acetic acid added until faintly acid, an abundant, white, flocculent precipitate formed. This precipitate was collected, washed with water, transferred to a beaker, phenolphthalein added and tenth-normal potassium hydroxid volumetric solution run in until a pink color was produced. This required 15 c.c. of tenth-normal alkali. Subtracting from the 2 gm. of iodonucleoid the 24 per cent. iodin, leaves 1.52 gm.: this divided by the c.c. of alkali used indicates an equivalent weight of 1013.

Authorities differ widely regarding the amount of phosphorus contained in nuclein from different sources, the figures ranging from 2.9 per cent. to as high as 10 per cent. If the nuclein from which iodonucleoid purports to be made contained but 2.9 per cent. phosphorus, the preparation, after allowing for 24 per cent. iodin, should still contain 2.2 per cent. phosphorus instead of 0.79 per cent., as found by analysis. A true nuclein should contain no calcium. If iodonucleoid is a casein compound of iodin we might expect to find, if the casein had been freed from milk by acidulation without further purification, both calcium and phosphorus. The equivalent weight of casein is given by Long (*Jour. Am. Chem. Soc.*, 1906, xxviii, 372) as 1124. This figure was obtained on a casein of high purity, and the figure of 1013 given above agrees fairly well with Long's figure for casein. The evidence, therefore, indicates that iodonucleoid is a compound of iodin and casein, and not a nuclein compound.

The findings of the laboratory were at that time submitted to Prof. John H. Long of Northwestern University, who said:

> "We have also made a number of examinations of iodonucleoid. We determined in it the iodin and found the amount 24.2 per cent. by weight, which is a little more than that claimed by the manufacturer. We have also tested the solubility of this substance and find it to behave about as your laboratory did. As you know, we have been making a number of preparations from casein, and recently we have determined the combining power of casein with various acids, including hydriodic acid. This acid when evaporated in moderately strong solution with casein yields finally a hard, dry mass, which may be ground up to a powder resembling very closely the preparation under discussion. Various amounts of iodin may be combined here, depending on the strength of the iodin solution used, and we have secured some containing over 35 per cent. of iodin. Several of these preparations resemble closely iodonucleoid, so far as solubility, appearance and reaction with alkalies on titration are concerned. I am unable, therefore, to distinguish this preparation from the casein compounds which we are making."

From this it would appear that iodonucleoid is not a compound of nuclein, as indicated by the name, but instead is a casein compound of iodin.

Iodonucleoid, then, seems to be another one of the many iodin "substitutes" which have been put on the market. Other iodin substitutes are Iodalbin, manufactured by Parke, Davis & Co.; Iodipin, manufactured by E. Merck & Co., and Sajodin, manufactured by the Farbenfabriken of Elberfeld Co. As these products have been examined by the Council and found eligible for inclusion with New and Nonofficial Remedies, physicians who wish to use substitutes for potassium iodid would do well to use them instead of a product presented under a misleading name. Physicians should understand, however, that these organic iodin compounds are non-irritating because the iodin is held in such combination that it is much less active. It seems probable that they are therapeutically active only to the extent that the iodin content is dissociated from the organic compound and converted into ionic iodin. A discussion of a number of iodin substitutes is found in an article by von Notthafft (*Monatsh. f. Prakt. Dermat.*, Oct. 15, 1910, p. 343), which was abstracted and commented on in THE JOURNAL, March 4, 1911, p. 685.

Von Notthafft believes that the lower degree of toxicity which these remedies exhibit has its basis in a feebler activity; either the substitutes evolve too little iodin or they split it off with greater difficulty. Physicians should, therefore, view with some distrust the claims of manufacturers that their products are not only non-irritating but at the same time possess unusual therapeutic efficiency. This will apply with especial force if there is any tendency to conceal the nature or origin of the combination.

AMEND IT

"The Supreme Court of the United States has done something to the Pure Food and Drugs Act never intended by Congress. Its recent decision in a test case means that any quack and faker can put up the most worthless stuff, label it a 'sure cure for cancer' and not be interfered with.

"And the worst of it is that the nostrums carry the phrase 'guaranteed under the Food and Drugs Act,' which is misleading to so many who believe that Uncle Sam has thus become sponsor for the alleged remedy.

"The law should be amended before it gives any further aid and comfort to liars and charlatans."—*Boston Post.*

Correspondence

Physicians Should Address the Public on Temperance

To the Editor:—A noteworthy movement marked the session of the American Medical Association at Los Angeles. This appeared first at the Atlantic City session three years ago, in the number of requests, from pastors of churches, to have visiting medical men address their people on the temperance question. Three or four physicians complied, speaking on the Sunday before the meeting and at special evening meetings during the week.

At St. Louis last year, these requests were more numerous and came from pastors of churches, philanthropists and persons interested in the temperance work, soliciting physicians to speak on the alcoholic problem in the various pulpits. I succeeded in placing seven physicians in the different pulpits, some of them speaking two and three times, on the various sides of the alcoholic problem. Two physicians spoke during the week at special meetings, in large churches.

At the Los Angesles meeting, the requests for services of *this kind* were very numerous and a dozen physicians would have been warmly welcomed in the various churches, where no doubt the temperance question has never been discussed before. Pastors and leading church members showed unusual interest to hear leading physicians discuss the temperance problem.

According to the daily papers, nearly twenty physicians spoke in the churches and various halls on hygienic subjects, including temperance and other great health questions.

I was both astonished at the requests for temperance talks from the different churches and societies, and embarrassed because of the fact that I could secure only four physicians who were willing to make this the theme of these services. A few physicians with myself have been trying to rouse new interest in this subject among physicians, who of all should have no hesitation to speak on the alcoholic problem.

I could have found for more than a dozen physicians at Los Angeles, audiences who would have warmly welcomed talks on the alcoholic problem.

The impression started a few years ago has settled into a conviction that the leading members of the A. M. A. should give more accurate information on this great problem than others; and it is now expected that when they come into the neighborhood they will be asked to speak on these subjects.

The Association has practically recognized the great value of having the leading men speak on hygienic topics before, during and after the annual sessions. Of all subjects, the alcoholic problem is the most vital and intense, and the desire of the public to be instructed on this as well as other topics, is a great forward movement which the profession should be anxious to meet.

The future meetings of the A. M. A. will show further interest in this direction, and it would seem to be the highest kind of wisdom to anticipate this increased desire of the public, and to provide speakers for this and other great hygienic questions that are growing in the public mind.

T. D. Crothers, M.D., Hartford, Conn.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LITERATURE ON STREPTOCOCCI

To the Editor:—Please give references to the latest and best literature in English, German or French on streptococci, especially articles dealing with methods of staining and differentiation of the various varieties of streptococci. Dublin.

Answer.—The following list includes the most important articles that have appeared within the last eighteen months:

Albrecht: Ueber einige Eigenschaften des Streptococcus equi, *Ztschr. f. Veterinärk.*, 1910, xxii, 441.

Buchanan, R. E., and Truax, R.: Non-Inheritance of Impressed Variations in Streptococcus Lacticus, *Jour. Infect. Dis.*, 1910, vii, 680.

Rickmann: Zur Frage der Identität der Erreger des Schweinerotlaufs des Erysipeloids und der Mäuseseptikämie, *Ztschr. f. Hyg. u. Infektionskrankh.*, 1909, lxiv, 362.

Hamm, A.: Bemerkungen zu Fromme's Differenzierungsverfahren der Streptokokken mittels Lezithinbouillon, *Zentralbl. f. Gynäk.*, 1910, xxxiv, 278.

Boughton, T. H.: Infections of Homologous Streptococci Killed by Galactose in the Treatment of Suppurative Complications of Contagious Diseases, *Jour. Infect. Dis.*, 1910, vii, 99.

Todd, D. D.: A New Color Medium for the Isolation and Differentiation of Streptococci, *Jour. Infect. Dis.*, 1910, vii, 73.

Winslow, C. E. A., and Palmer, G. T.: A Comparative Study of Intestinal Streptococci from the Horse, the Cow, and Man, *Jour. Infect. Dis.*, 1910, vii, 1.

Arzt, L.: Zur Kenntnis des Streptococcus mucosus und der von ihm verursachten Krankheitsformen, *Centralbl. f. Bakteriol.*, 1910, liv, 394.

Lignieres, J.: *Quelques notes à propos du streptocoque de Schütz; considérations générales sur la qualité pathogène et la différentiation des microbes d'un même groupe*, *Arch. f. wissensch. u. prakt. Tierh.*, 1910, xxxvi, Suppl. vol., 283.

Traugott, M.: Zur Differenzierung von Streptokokkenstammen durch Frommes Lezithinverfahren, *Ztschr. f. Geburtsh. u. Gynäk.*, 1910, lxvi, 331.

Hoessli, H.: Das Verhalten der Streptokokken gegenüber Plasma und Serum und ihre Umzuchtung, *Centralbl. f. Bakteriol.*, 1910, lv, 135.

Zangemeister, W.: Ueber Verbreitung der Streptokokken im Hinblick auf ihre Infektiosität und ihre hämolytische Eigenschaften, *München. med. Wchnschr.*, 1910, lvii, 1268.

Swift, H. F., and Thro, W. C.: Study of Streptococci with the Complement Fixation and Conglutination Reactions, *Arch. Int. Med.*, January, 1911; abstr. in The Journal, Feb. 25, 1911, p. 621.

Mächtle, H.: Differentiation of Hemolytic Streptococci by Lecithin Bouillon, *Zentralbl. f. Gynäk.*, March 11, 1911.

Schleissner, F., and Spät, W.: Differential Bactericidal Properties of Leukocytes in Respect to Streptococci, *Jahrb. f. Kinderh.*, March, 1911.

Metzger, D.: Hemolytic Streptococci in Puerperal Infection, *Presse méd.*, April 15, 1911; abstr. in The Journal, May 27, 1911, p. 1621.

REMOVAL OF TATTOO MARKS

To the Editor:—Please describe in detail a method for removing tattoo marks from the human body. A. L. Ceasar, New York.

Answer.—This question has been answered before in this department of The Journal and it is answered in text-books on skin diseases (Pusey, for example); but as we hav recently received several requests for this information we giv the details below:

The principle of treatment of these marks is to excite a inflammatory process by means of chemical irritants so as t cause destruction of the superficial layers of the skin. Tw methods have been devised, the method of Variot and th method of Brault.

Variot's plan of treatment, according to Brocq, is as follows First, he places on the tattoo marks a concentrated solutio of tannin, and tattoos this in. Then a silver nitrate pencil i rubbed vigorously over the surface until the surface become black from the formation of silver tannate in the superficia layers of the skin, and the surface is then washed with water In the next few days a slight inflammatory reaction occurs and over the surface treated a closely adherent dark crust forms. After the third or fourth day there is no pain except when there is movement of the muscles under a large crust. Occasionally there is a little suppuration under the crusts, but if secondary infection is avoided no severe inflammation occurs. After fourteen or sixteen days the crust comes off spontaneously, the corium and the epidermis underneath have been repaired, and the locality of the mark is recognizable only by a superficial pink cicatrix which gradually becomes of normal color. A couple of months after the operation the scar is hardly noticeable.

Brault's method of removing tattoo marks consists in tattooing the region, previously rendered aseptic, with a solution of 30 parts of zinc chlorid to 40 parts of water. The needles with which the tattooing is done are dipped in this solution and the surface is lightly moistened with the same solution after the tattooing. If properly done the resulting inflammation is slight and after a few days, there forms a superficial crust which remains about a week and then falls, leaving a slight, eventually almost imperceptible, scar. This method succeeds in a few cases but requires skill and care in its application in order to obtain good results and to avoid suppuration and deep cicatrization.

ETHER RAUSCH IN CANADA

To the Editor:—I was interested to know that the so-called ether *Rausch* was not generally known to practitioners in America. Dr. Frank Buller, late professor of ophthalmology at McGill University, taught this method to every student that sat under him. He used an aluminum cone covered with stockinet and plugged with gauze saturated with ether. The patient administered the anesthetic to himself and when he was anesthetized the cone fell to the floor. Dr. Buller insisted that the method was absolutely safe for operations in the erect (sitting) position and he used it for all short operations on the eye or ear. All McGill students for the past twenty-five years have been instructed in the method, whether they have used it or not.

Malcolm Mackay, Sherbrooke, Quebec, Canada.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 8, 1911.

Waterhouse, S. M., major, relieved from duty at Fort Washington and ordered to Fort H. G. Wright, N. Y., for duty.

Williams, A. W., captain, relieved from duty at Fort H. G. Wright, N. Y., and ordered to Philadelphia, as attending surgeon.

Woodbury, F. T., granted twenty days' extension of leave.

Wales, P. G., major, twenty days' leave of absence, to take effect on completion of examination for promotion, granted.

Baker, F. C., major, granted leave of absence for three months from Aug. 5, 1911.

Bayly, R. C., first lieut., relieved from duty in the Philippine Islands and ordered to San Francisco on the transport to sail from Manila Oct. 15, 1911, and report to the adjutant general of the Army for further orders.

Perley, H. O., colonel, ordered to proceed to Fort Leavenworth, Kan., and report in person to the commanding officer for duty.

The following named officers of the M.R.C., recently appointed, are ordered to active duty in the service of the United States and will proceed to stations named below and report to the commanding officer for duty, and by letter to the commanding general of the department: Burnett, T. W., to Fort Slocum, N. Y.; Meehan, J. W., to Fort Howard, Md.; Poust, L. R., to Fort Jay, N. Y., and Ingold, J. G., to Fort Wayne, Mich.

Phillips, H. A., first-lieut., ordered to former station when *Sumner* is placed out of commission.

Koyle, F. T., M.R.C., ordered to former station when *Kilpatrick* is placed out of commission.

Walker, T. C., M.R.C., ordered to former station when *McClellan* is placed out of commission.

Crampton, L. W., colonel, after arrival in New York City, and on expiration of leave of absence, will proceed to this city and report to the adjutant general of the Army for further orders.

Baker, C. R., M.R.C., ordered to active duty, and will proceed to Fort Hancock, N. J., July 10, 1911, and report to the commanding officer for duty.

Nichols, H. J., captain, left Army medical school on thirty days' leave.

Austin, T. C., lieut., left from duty at Yuma, Ariz., on thirty days' leave.

Ashford, B. K., major, relieved from present duty and will report to the governor of Porto Rico as aide.

Gunckel, G. L., D.S., relieved from duty at Fort McPherson, Ga., and ordered to Fort Barrancas, Fla., for duty.

Roberson, H. M., first-lieut., relieved from duty at Army medical school in this city.

McMillan, C. W., first-lieut., relieved from duty at Army medical school in this city.

Rhoades, T. L., major, will proceed to Fort McHenry, Md., and accompany the 142d Co. C. A. C. to San Francisco, and then return to his proper station.

Ragan, C. A., captain, ordered to report to the president of the examining board, Army Museum Building, Washington, D. C., for examination to determine his fitness for promotion.

Reynolds, Royal, first-lieut., ordered from general hospital, presidio of San Francisco, to report to the medical superintendent, Army transport service, this city, and assume duties of surgeon on transport *Sherman* en route to Manila, and report on arrival to commanding general, Philippine Division.

Connor, C. H., captain, ordered to report to commanding officer, 1st Battalion, 5th Field Artillery, presidio of San Francisco, for duty with that command, en route to Fort Sill, Okla., and on completion of this will return to his station, Maneuver Division, San Antonio, Texas.

Anderson, E. A., M.R.C., granted leave of absence for three months, to take effect on or about Aug. 1, 1911.

Church, James R., major, detailed as inspector and instructor of the medical corps and hospital corps, organized militia of New York, at coast defense exercises, July 5-August 7, and State of Maine, July 17-26.

Little, William L., captain, detailed as inspector and instructor of the medical corps and hospital corps detachments with coast artillery reserves, organized militia, State of Rhode Island, during coast defense exercises, July 9-16.

Bartlett, C. J., captain, detailed as above with organized militia, State of Massachusetts, July 9 to 16, 1911.

Geddings, E. F., major, detailed as above with organized militia of State of Maryland, July 15 to 24, 1911.

McAndrew, P. H., major, detailed as above with organized militia, State of Connecticut, July 20 to 29, 1911.

Reno, William W., detailed as inspector and instructor of the medical corps and hospital corps detachments with coast artillery reserves, organized militia, State of New Hampshire, during the coast defense exercises, Sept. 5 to 12, 1911.

Stone, F. P., D.S., left from temporary duty at Fort Rosecrans en route to station at Army general hospital, San Francisco.

Birmingham, H. P., colonel, promoted to rank from June 7, 1911.
Fisher, Henry C., lieut.-col., promoted to rank from June 7, 1911.
Bartlett, Cosam J., major, promoted to rank from June 7, 1911.

Medical Corps, U. S. Navy

Changes for the week ended July 15, 1911.

Eator, W. E., asst.-surgeon, detached from the *North Dakota* and ordered to the *Virginia*.

Pollard, J. B., asst.-surgeon, detached from the *Virginia* and ordered to the *North Dakota*.

Gardner, J. E., medical director, commissioned medical director from June 2, 1911.

Crandall, R. P., surgeon, ordered to the *Franklin*.

Plummer, R. W., surgeon, detached from the *Franklin* and ordered to the naval training station, North Chicago, Ill.

Miller, J. T., P. A. surgeon, detached from the *Franklin* and ordered to the Navy yard, Norfolk, Va.

Zalesky, W. J., P. A. surgeon, ordered to the *Franklin*.

Riker, G. A., asst.-surgeon, detached from the *Louisiana* and ordered to the *Dixie*.

Field, J. G., medical inspector, detached from the Navy yard, Norfolk, Va., and ordered to command the naval hospital, naval training station, North Chicago, Ill.

Kaufman, J. B., P. A. surgeon, detached from the Navy yard, Norfolk, Va., and ordered to the *Louisiana*.

Byrnes, J. C., medical director, commissioned a medical director in the Navy from June 11, 1911.

Reed, E. U., P. A. surgeon, detached from duty on the *Princeton* and ordered to duty at the naval station, Tutuila, Samoa.

Biello, J. A., P. A. surgeon, commissioned a passed assistant surgeon in the Navy from April 11, 1911.

Lanning, R. H., asst.-surgeon, appointed an assistant surgeon from June 21, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended July 12, 1911.

Francis, Edward, P. A. surgeon, directed to proceed to Auburn, N. Y., on special temporary duty.

Creel, R. H., P. A. surgeon, granted seventeen days' leave of absence from July 15, 1911.

Roberts, Norman, P. A. surgeon, granted nine days' leave of absence from June 22, 1911, on account of sickness.

de Valin, Hugh, P. A. surgeon, granted fourteen days' leave of absence from June 28, 1911, on account of sickness.

Friedman, H. M., A. A. surgeon, granted twenty-one days' leave of absence from July 15, 1911.

surgeon, leave of absence for thirty days Light, S. D. W., A. A. from June 6, 1911, amended to read "twenty days from June 6, 1911."

Safford, M. V., A. A. surgeon, directed to make monthly visits to Providence, R. I., for the examination of arriving aliens.

Boards of medical officers convened to meet as soon as practicable to conduct medical surveys of officers of the Revenue-Cutter Service, as follows:

Fort Stanton, N. M. Passed Assistant Surgeon H. S. Mathewson, chairman; Passed Assistant Surgeon F. C. Smith, recorder.

San Francisco, Cal. Surgeon J. M. Gassaway, chairman; Passed Assistant Surgeon R. E. Ebersole, recorder.

Society Proceedings

AMERICAN ACADEMY OF MEDICINE

Thirty-Sixth Annual Meeting, held at Los Angeles, Cal., June 23-26, 1911

The President, DR. CHARLES S. SHELDON, Madison, Wis., in the Chair

A list of the officers that were elected at this meeting for the ensuing year was given in *THE JOURNAL*, July 15, 1911, page 228.

The Latest Improvement in Medical Education—The Prevention of Disease and the Prophylaxis of Health

DR. CHARLES STUART SHELDON, Madison, Wis.: The vast field of usefulness of a National Department of Health is clearly recognized by every intelligent physician; yet this most sensible measure has met bitter, and thus far, successful opposition. The magnificent work of Col. W. C. Gorgas is one of the most glorious victories of preventive medicine. As with yellow fever, so with malaria and typhoid. The crusade against tuberculosis illustrates the possibilities of accomplishment when once the people have learned the facts. Only recently has there been any thorough study of the prevention of infant mortality.

Dr. Abraham Jacobi of New York has shown that the industrial conditions in many of our communities are largely responsible for the high infant mortality. Thus the economic protection of the mother is of prime importance. It is obvious that some wisely planned system of compulsory medical school inspection should be legally instituted. The matter of adequate playgrounds for children also deserves attention. The intimate relation which the medical profession bears to the whole health propaganda shows that to secure the best results every physician should be a center of influence in all matters relating to health.

Eugenics of the Human Race

DR. HENRY B. WARD, Urbana, Ill.: Disease, excess and war have been reducing factors in human evolution, but are fast disappearing. The energies of philanthropy have been directed to the improvement of external conditions, but the determining factor is found in the blood. The result of any external influence depends on its nature, but also on the character of the protoplasm on which it works. A eugenics record office is collecting data concerning inheritance in American families, and various committees are studying the facts concerning the heredity of defectives and delinquents. Investigations show that the classes of our population characterized by their effectiveness are not maintaining their present numbers, while the most undesirable classes, including defectives and degenerates, have increased markedly in the last fifty years. Perpetuating and strengthening effective lines must be secured by improving the blood. Eugenics proposes to point out means by which the worthless elements may be reduced and the unfit eliminated.

Some of the states already limit the propagation of criminals and degenerates, but the state must safeguard marriage further by adequate legislation concerning marriage permits. A nation must encourage the higher development of its best elements if it hopes to continue its existence and perpetuate its high standing.

Teaching Preventive Medicine in Universities and Normal Schools

DR. HENRY B. HEMENWAY, Evanston, Ill.: Preventive medicine is not taught in a thorough manner in the majority of medical schools. There are few competent to take positions as professors of public health in universities. There is also the obstacle of finance. The Massachusetts Institute of Technology is probably giving better instruction in this regard than any medical school in America. It would seem that instruction can best be given in a lecture course open to the entire student body. If possible, some credit should be given for attendance and for work in the laboratory and seminary.

DISCUSSION

PROF. HENRY B. WARD, Omaha: The first reason why this work is not done is that there is no organized plan, and a more important difficulty is that there is no demand for such a course. Until such demand comes we shall not make very great headway.

DR. EDWARD JACKSON, Denver: In the University of Colorado a course in preventive medicine has been given which has been attended by nearly all who can arrange for the hour. As Dr. Ward has said, we cannot expect university authorities to take much interest until something definite is formulated.

Should We Expect More than Mediocrity from the Medical Profession?

DR. FRANCIS M. POTTENGER, Monrovia, Cal.: The one thing which American physicians as a whole lack in comparison with their colleagues across the water is a good preliminary training, not only in the branches underlying the foundation of medicine, but in the foundation of medicine itself. American medical literature, however, shows a keen application of principles and an ability to produce results. No matter how high the entrance requirements for our medical schools or how stringent the final examinations, many men, doomed to be failures in their chosen profession, will find their way into the ranks of medicine. All professions and branches of business have their leaders and geniuses, but it must be remembered that the great majority of us follow our leaders at a great distance. That the raising of the standard of our profession offers better medical service, we have every reason to believe, but that a high standard of medical education can guarantee a general service beyond that mediocre standard is open to question. No amount of training can overcome the difference in capabilities of men. The best can be had only from those who are able to give it, and must come by close cooperation and consultation between the members of our fraternity who are able to give the best and those who are not.

Publishing Details of Suicides in the Public Press

DR. HENRY B. HEMENWAY, Evanston, Ill.: Alienists are practically unanimous in the opinion that the suggestive effect of reading of details of suicides is a powerful factor in the causation of suicides among susceptible individuals. Newspaper men, while not denying the truth of the claim, reply that it is the province of the papers to publish the news. Attempts at legislation are practically useless unless preceded by a general demand on the part of the public. A statistical study is given which shows a continual increase in the death-rate from suicide, aggregating 60 per cent. in the nine years ending 1908. Not only is the suicide rate increasing, but it constituted 1.2 per cent. of all deaths reported in 1909. Geographically, the crime is not uniformly distributed. Nationality also has a bearing. It is found that those engaged in such occupations as keep one active physically are little prone to the act, except soldiers and sailors. If papers persist in publishing scandals, homicides and suicides, why not confine such pernicious matters to a separate sheet of distinct yellow color? We as defenders of the health and morals of the communities request the press of America to refrain from further publication of such affairs. On the estimated average value of a human life at $3,000, the loss from suicide in this country in 1908 was $24,996,000.

Neurotic Books and Newspapers as Factors in the Mortality of Suicide and Crime

DR. EDWARD BUNNELL PHELPS, editor of the *American Underwriter:* The founder of the modern system of vital statistics, Dr. William Farr, seventy years ago expressed the deliberate opinion in one of his official papers that "some plan of discontinuing, by common consent, murder and bloodshed in the newspapers is well worthy the attention of their editors."

The Press and Crimes Against the Person

DR. FRANCES FENTON, Mt. Holyoke, Mass.: In the study of newspapers made by me, including an analysis of approximately fifty-seven different papers from different sections of the country, the average percentage of news alone which should be withdrawn from the columns was 23.02 for the highest and 7.94 for the lowest. The average percentage of all kinds of antisocial matter, excluding advertisements, in the entire paper which should be removed is 8.11. Bills bearing on this subject have been introduced in some of our state legislatures. The Church bill, prohibiting the publication in newspapers of any detailed account of crime, passed both houses of the Illinois legislature and went up to the governor at the recent session. The press has threatened to make it a dead letter if it becomes a law. This indicates that we must look to the quality of our judges and to an educated public.

The Newspapers and Crime

DR. WILLIAM S. WADSWORTH, Philadelphia: From my professional study of the subject I have no hesitation in pointing out that newspaper accounts of crime influence those who commit crime. We are having just at this time an epidemic of cyanid poisoning that we predicted would result from the lurid newspaper accounts of a crime committed some months ago. It is for the protection of those accidentally potential and the congenitally defective that we plead for methods of prevention. The fight is not against the press as such, but against its pollution.

Present Magnitude of Altruistic Medical Effort in the Far Orient

DR. CHARLES MCINTIRE, Easton, Pa.: When one reads that the first medical missionary in China, Dr. Peter Parker, opened an ophthalmic hospital in Canton in 1835, securing one patient the day after its opening, and then turns to reports submitted to the Edinburgh Conference last year, and learns that there are now 207 hospitals in China that treated 58,757 in-patients for the year of the report, one begins to realize the healthy growth of the movement and to gain some idea of its present magnitude. We also learn that in Korea, Japan, the Chinese Empire, Siam and French Indo-China, the Dutch East Indies and India there are 716 missionary physicians, 410 hospitals and 681 dispensaries. The cost per patient a year is $8.40. Our study seems to show it to be a big thing and a good thing, and, as such, demands the intelligent and sympathetic cooperation of the profession at home.

Contagious Diseases in Schools

DR. ERNEST BRYANT HOAG, Berkeley, Cal.: The principal points to be considered in relation to contagious diseases in schools are: 1. The direct effect of the diseases themselves. 2. The direct or indirect effects of such diseases in producing "physical effects." 3. The relation of these diseases to retardation and elimination. 4. The cost to the school department through decrease of average daily attendance, on which appropriations are often in part based. 5. The cost to the family for medical treatment, nurses, etc. 6. The cost to the individual through general lowered vitality or direct physical disability of one sort or another.

At Berkeley by a cross-checking method between the city health department and the school department contagious diseases are readily recognized and recorded. A contagious disease map is made of the entire city, and at a glance the focus of infection can be located. Various tables and curves are made indicating the contagious status of each school. Other tables and curves may be made, showing age, distribution of contagious diseases, mortality rate, time lost, cost of sickness to family or school, relation to weather or season, relation to ventilation in home or school, relation to vacations, and relations to any other things which may be deemed important or interesting. This paper particularly emphasizes the importance of accurately collecting data and exhibiting it as far as possible in a graphic form by means of charts and the plotting of curves.

Should There be Two Degrees in Medicine?

DR. HELEN C. PUTNAM, Providence, R. I.: Answers received to inquiries made on this point were as follows:

> "The value of a two-degree system in medicine depends on what the degrees stand for. As a general proposition, I am in favor of having preliminary and secondary degrees in medicine, with the understanding that the secondary degrees are only to be granted after specific preparation covering a definite period, and with the further understanding that the details of such a system must be worked out only after careful deliberation." (Dr. George Blumer, Dean Yale Medical School.)
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> "I feel I am justified in saying that the University of Pennsylvania would distinctly favor the adoption of courses for advanced degrees for medical study—that in the pure sciences the school is now endeavoring to provide for such work in courses leading to the Ph.D. degree, and in the applied lines by special courses not intended for undergraduates for which special diplomas or certificates are given; and that any concerted effort in these lines will be received with sympathetic approbation." (Allen J. Smith, Dean Medical Department University of Pennsylvania.)
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> "Our faculty is just considering the question of offering an advanced degree in medicine for those of its graduates who continue to do good work after graduation. . . . To the young man who does good clinical work and who presents a thesis and passes an examination not earlier than two years after graduation, we are thinking of giving the degree of doctor of clinical medicine. To the young man who does correspondingly good work in preventive medicine we are thinking of giving the degree of doctor of public health. Of course, for scientific work the degrees of doctor of philosophy and doctor of science are open to all of our graduates, inasmuch as they are already bachelors of science or arts before they graduate. . . . The giving of these advanced degrees would be a reward for those who continue to do well and do honor to their alma mater." (V. C. Vaughan, Dean Medical Department, University of Michigan.)
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> "Theoretically, I should think that it would be a good thing in this country; but it seems to me that it would be impracticable to establish here on British lines. . . . If it were possible to introduce a second degree of medicine, corresponding to the degree of doctor of philosophy, such as . . . doctor of medical science, M.Sc.D., and make this something for students to work for, it would be both practical and worth while." (Charles L. Dana, New York.)
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> "I am greatly in favor of some advanced degree in medicine along the lines as indicated by your communication." (G. W. Crile, Cleveland.)
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> "I am a believer in a five-year medical course, leading to a degree of doctor of medicine, and that this fifth year should be added at the end of the present training of the best schools, as a clinical year, during which the student should busy himself with work as an intern in general surgery, internal medicine and obstetrics . . . I doubt the advisability of giving the degree of doctor of philosophy for postgraduate work in medical specialties, as has been proposed by certain educators, and I would also be opposed to creating such new titles as doctor of public health, doctor of sanitary science and doctor of hygiene." (S. W. Lambert, Dean College of Physicians and Surgeons, New York.)
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> "I believe having two degrees would stimulate the younger members of the profession." (W. Jarvis Barlow, Dean of the Southern California Medical Department of the California State University.)
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> "It is to the elimination of the unfit among the prospective medical students and to the proper training of those accepted that we should primarily direct our efforts if we are to win for the doctorate of medicine the real respect that is its due. If, through the efforts of the Council on Medical Education of the American Medical Association and the Association of American Medical Colleges, we can make the medical degree have a uniform and recognized merit, we may be able to as our legislative bodies for stamps that will readily distinguish us from our imitators and allow the public a more intelligent choice than is evidenced to-day. Nevertheless, it is reasonable to consider giving a degree for research work accomplished after the completion of a properly grounded medical education. The only proper basis for granting such degrees should be founded on high and uniform standards. Such degree, it would seem to me, should be something more distinguishing than another doctorate, and would have the same value for prospective medical teachers if we continue our present attitude toward research work as a preparation for advanced medical instruction." (Ray Lyman Wilbur, Executive Head Department of Medicine, Stanford University.)

Postgraduate Degrees in Medicine

DR. ANDREW STEWART LOBINGIER, Los Angeles: Before we can establish effective postgraduate courses of medical study we must entirely reconstruct our undergraduate schools of medicine. The first efforts should be directed to reducing the number of them to one-tenth of the present number in the United States. Were we to grant the bachelor degree in undergraduate course and reserve the doctorate in medicine for the completion of a course of postgraduate work leading up to the ultimate qualifications for the various specialties, it would be more consistent with the accredited value of these degrees. Students should determine early their special line of work, and after the completion of the undergraduate course with two years' general intern work in an accredited hospital, they should take at least three years' postgraduate work on the specialty of choice. During this time the student should be taught to determine his judgments on the principles which govern in medicine and surgery just as keenly and conscientiously as he enters on his technical research and clinical observations. If possible after taking his postgraduate degree, which should be a doctorate in his specialty, he should be required to spend one or two years at least as assistant to a master surgeon or other specialist before he may be licensed to practice his specialty. We are suffering from scattered energies, which eventually must be focalized into a few richly equipped and endowed centers of medical education. When this is accomplished we shall recognize and the people will accept the postgraduate degree in medicine as a mark of proficiency for the responsibilities of a special line of practice.

DISCUSSION

DR. CHARLES LYMAN GREENE, St. Paul: I think the adoption of the British system of giving a bachelor degree is absolutely impractical in this country. We made a mistake primarily in granting the doctor's degree which we did not justify, and I think we must abide by that mistake and be satisfied now with the attempt to build up our schools in order to justify the bestowal of an M.D. degree. Postgraduate degrees will come after much has been done in the improvement of our present medical schools. The Ph.D. degree might very well be granted to those men who have done special research in laboratory work. Later we may find it possible to grant postgraduate degrees which carry the idea of special proficiency along special lines. We are suffering tremendously at this time from ready-made specialists—from men who have no proper balance.

DR. ARTHUR E. HERTZLER, Kansas City: What we have yet to do is to find some way of eliminating the pseudospecialist. A man may take an indefinite course of postgraduate work, become an excellent qualified practitioner along some particular line, and still not be in any sense a research worker. To become a research worker the natural gift of imagination is essential, and I believe that only to the researchers should an advanced degree be granted.

DR. CHARLES D. LOCKWOOD, Pasadena: Primarily the good general practitioner is the product most needed and to which we as a profession are most strongly committed. The course in the average medical school will not adequately develop the research worker. There should be schools for men of special scientific ability where this development may be accomplished.

STATE MEDICAL SOCIETY OF WISCONSIN

Sixty-Fifth Annual Meeting, held at Waukesha, June 7-9, 1911

The president, DR. BYRON M. CAPLES, Waukesha, in the chair

The officers elected for the ensuing year were named in THE JOURNAL, June 24, 1911, p. 1890.

Relation of Physician to Public Campaign Against Tuberculosis

DR. HOYT E. DEARHOLT, Milwaukee: The Wisconsin Antituberculosis Association has made a close study of 1,200 case histories of living and dead consumptives for the purpose of determining the factors responsible for the spread of the disease. The reports give evidence of an amazing situation concerning the lack of proper diagnosis and treatment of the disease. More serious than this, however, is the lack of precise directions to patients and friends as to simple precautions necessary to prevent family and neighborhood infection.

DISCUSSION

DR. G. E. SEAMAN, Milwaukee: People are beginning to learn the fundamentals with respect to prevention and treatment of tuberculosis, and in many respects the physicians are lagging behind the people. No patient should be allowed to leave the physician's office without printed instructions as to future conduct.

DR. T. L. HARRINGTON, Milwaukee: We must remember that the statements of patients are often incorrect. Nevertheless, the physician seems to fail to realize his responsibility. I usually give my patients Dr. Lawrence Flick's optimistic book on tuberculosis to read.

DR. W. E. DURR, Milwaukee: The prevention of tuberculosis is an intensely personal matter. It should come right home to all of us. Fumigation is too often carelessly and ineffectually done, if done at all. The charge of gross carelessness on the part of many physicians is too true.

Dr. G. Windesheim, Kenosha: The physician is not sufficiently compensated for his labor of diagnosis, but it is his own fault. Make your examinations conscientiously and thoroughly and increase your charges accordingly. The patient will pay them willingly. The statements of patients are not exaggerated. Not 25 per cent. of the physicians in my territory give tuberculosis patients the thorough examination, attention and care that they deserve. Failure to tell the patient his true condition is wholly without excuse in the present day when tuberculosis frequently yields so readily to proper treatment. People are no longer afraid of the disease.

Dr. C. H. Stoddard, Milwaukee: Pressure is being brought to bear by the people themselves, which will in the course of a few years change the situation. The people are becoming educated rapidly on the subject of tuberculosis, and physicians will be forced to give their patients necessary information and instruction.

Dr. George H. Fellman, Milwaukee: We should not tell our patients that they have tuberculosis until we are certain of it.

Dr. Richard C. Cabot, Boston: Dr. Dearholt's paper is an indictment against the whole profession. Practical examination should be required for registration. The presence of bacilli in the sputum is an evidence of advanced and not incipient tuberculosis. The latter must be diagnosed by physical signs and history. Printed matter is of no great value in instructing patients, requiring as they do a radical change of the patient's habits. The instruction must be personal. It often takes great moral and financial courage to tell a patient the truth, as the well-to-do leave town and the poor take to books of direction and cease their visits. Free dispensaries should be established under the charge of physicians who will devote their whole time to the early diagnosis and treatment of consumption. Such a municipal dispensary has been already established in Boston, and is doing excellent work.

The Venous Pulse and the Heart Sounds

Dr. J. A. E. Eyster, Madison: The existence of a third heart sound is not inconsistent with an absolutely normal heart. The second sound is found to follow the first in a much shorter time than occurs between the beginning of the first and second heart sound. The length of cardiac cycles tends to remain constant.

Essentials and Non-Essentials in Physical Diagnosis

Dr. Richard C. Cabot, Boston: I desire to call attention to the following important points: In one instance the accidental finding of nodes on the scalp led to the postponement of a proposed operation for splenic anemia, and the change of diagnosis to syphilis. A headache coming on at a certain hour in the morning and disappearing at a certain hour in the morning with perfect regularity, is absolutely indicative of frontal sinus disease. Tophi in the margin of the ears are proof positive of the existence of gout. A routine throat examination is essential in all physical diagnosis. A peculiar satiny feel of the skin of the arm indicates alcoholism. Feeling the pulse in both wrists at the same time may enable you to make a diagnosis of aneurysm from inequality of pulses. The stethoscope and blood-pressure machines are the two most useful instruments of precision in making physical diagnoses. In pulmonary tuberculosis the proper study of inspirations gives us an earlier means of diagnosis than the study of expirations. In using the stethoscope means should be taken of eliminating the sounds produced by the fingers slipping on the stethoscope and the stethoscope slipping on the skin. To detect râles let the patient breathe in, breathe out, then cough. The bacilli of tuberculosis when found in the sputum afford evidence of advanced pulmonary tuberculosis. Grocco's sign is valueless. Percussion is valueless in determining the size of the heart. It is a difficult and useless procedure. Palpation, inspection and blood-pressure will give the information. Never diagnose heart disease on the evidence of the murmur alone. A large percentage of children have cardiac murmurs which are without significance. In diagnosing diseases of the abdominal viscera, full and extensive history is essential. Physical signs are often entirely wanting. Palpation of the abdomen is one of the most difficult and unsatisfactory methods of diagnosis. A warm bath makes palpation easier. In gastric examination the essential question is, can the stomach empty itself. It is important to determine the size of the stomach. There is no such disease as gastroptosis. Bismuth plus *x*-ray has not proved successful in the early diagnosis of cancer or ulcer in the viscera. The guaiac test for occult blood is sure and easy. A two-fold examination of urine should be made: (*a*) a collection of the 24-hour amount divided into day and night portions; (*b*) specific gravity. These two facts show the work of the kidney, and that is all you need. The only other tests necessary are for albumin and sugar. The search for casts is unimportant. The examination of the sediment is important. The colored paper test for hemoglobin is valuable. Pale people, as a rule, are not anemic and some people with red cheeks are anemic. It is rarely necessary to make a count of the red blood-corpuscles. But it frequently is necessary to count the white corpuscles. Lumbar puncture may give you an early diagnosis of meningitis. The newer methods of cardiac diagnosis have not as yet proved very valuable. The *x*-ray is not a necessary part of routine diagnosis. The *x*-ray should be left to the expert. It is a valuable means of diagnosing syphilitic lesions through examination of the shin bones.

Ileocecal Adhesions

Dr. F. Gregory Connell, Oshkosh: Kinks in the lower ileum, and membranous pericolitis are common in cases presenting symptoms of chronic appendicitis. Removal of these conditions has been followed by permanent relief in some cases in which appendectomy was not followed by improvement. They should always be looked for while operating for chronic appendicitis. In order to do so a large incision will be necessary. They are probably not of inflammatory origin, but due to ptosis of the cecum. When present they should be removed or corrected, and an effort made to keep the cecum up and out of the pelvis. It is not to be expected that this will relieve all such cases, but from a review of the literature and personal experience, it would seem rational to suppose that, when liberal abdominal incisions and correction of these conditions are more common, our remote results after operation for chronic appendicitis may improve.

DISCUSSION

Dr. Franklin H. Martin, Chicago: The Lane kink actually exists. Among other symptoms may be noted a serious anemia. Absolutely satisfactory results follow operation to straighten out the kink. During convalescence give patients fattening diet, and when the supporting bandage is removed keep them in the Trendelenburg position.

Medical Inspection of Schools

Dr. Richard W. Jones, Wausau: Mandatory inspection of public schools is a most important matter. The system of inspection has been in vogue in Wausau for a year, and the outlook is very promising. The campaign is practically one of education.

DISCUSSION

Dr. George P. Barth, Milwaukee: Inspection of schools in Milwaukee was begun April, 1909. Since then ten physicians have been appointed as medical inspectors, and one dental inspector has been appointed. The results are gratifying. Hygienic conditions both in the school and in the home are greatly improved. Special attention is sought to be given to mental and physical defectives; to the establishment of outdoor schools; to the proper seating of children; segregating the especially backward and exceptionally brilliant pupils, and giving proper school facilities for the exceptional students. Special study is given to truancy, its cause and cure.

Dr. C. R. Bardeen, Madison: The need of medical inspection in the schools is shown in the examination of students for admission to the university. The medical inspector reports that only 25 per cent. of the young men and 6 per cent. of the young women are perfectly normal. Because of ignorance of the importance of medical inspection, the public is rather niggardly, and should be educated to the importance of being willing to pay liberally for the protection of public health, and not require this protection, as at present, to be in the nature of practically a free gift from the medical profession to the public. The University of Wisconsin will start next year a course for public health officers.

Dr. Charles S. Sheldon, Madison: The school should be a place where health is promoted, not a place, as is too often the case, where health is threatened and disease contracted. The economic waste resulting from our carelessness is enormous. There should be ultimately a state medical inspector to systematize the work and give proper instruction. Local inspectors in places of considerable size should devote their whole time to the work and should be well remunerated therefor.

Dr. John M. Beffel, Milwaukee: The time for the State to begin the medical inspection of the child is at the beginning of the child's life, and the state should not wait until the child enters school at the age of 5 or 6 years. The State controls the child so far as contagious diseases are concerned, yet only 8 per cent. of the children under 5 years of age suffer from contagious diseases. If the State could follow the child through the first year of its life, it could control the 50 per cent. death-rate of preventable diarrheal diseases, and reduce it almost to zero. Men and women are trained for every occupation except fatherhood and motherhood.

Relative Value of Diuretics

Dr. A. S. Loevenhart, Madison: Theobromin sodium salicylate, theophyllin sodium salicylate, sodium acetate and urea are all suitable for intravenous use in man, and their use presents many advantages. It is recognized, of course, that diuretics are really of use only in tiding over a crisis.

DISCUSSION

Dr. L. M. Warfield, Wauwatosa: We must remember that knowledge of the diuretic properties of drugs gained by experiments on healthy animals is by no means applicable to human beings with diseased kidneys. I have used 10 grains of urea intravenously with no ill effects. It is exceedingly soluble in water. My impression is that it has not proved to be a very valuable diuretic. Theosin sodium acetate has produced better results, and I have given it in doses as high as 5 grains. It is not very soluble in water, however. It is apparently a valuable diuretic when given intravenously.

The Present Understanding of Rheumatoid Conditions

Dr. Joel E. Goldthwait, Boston: The failure to achieve success in the treatment of chronic ailments is a reproach to the medical profession. But the time is coming when chronic as well as acute diseases can be cured. Joint manifestations are symptoms merely of disease in various parts of the body. We must find the source of the disease, then the symptoms will take care of themselves. Rheumatism is a term we use when we do not want to bother to find out what the real trouble is. We must endeavor to learn the specific cause of the symptoms of these rheumatoid conditions. And, first, there is the large class of cases resulting from not using the body right, and which are really simple strains. Another class covers true gout, which can be diagnosed to a certainty by the presence of tophi. In this manner we proceed until we have covered the real diseases grouped under the shadowy term. Pursue no treatment that is not based on etiology and pathology.

Always remember that it is not the joint that is the disease. It is merely the expression of a disease in some other part of the body. Listen patiently to the history. It will often afford a clue. Forget the word diathesis. Direct conditions are not inherited. Possible sources of infection are (1) the skin, (2) the genito-urinary tract or a local lesion therein (3) nose and throat and accessory passages, (4) the alimentary canal, which is the most serious, frequent and difficult source of infection. I had a case some time ago of a woman suffering from bronchitis and badly crippled with arthritis. She was operated on for antrum and frontal sinus conditions, whereupon her bronchitis and rheumatism promptly disappeared The bronchial and joint conditions were caused by the focus of pus in the antrum overflowing, dripping down and poisoning her bronchi and joints. I recall a case of "rheumatism" cured by removing an ulcerated tooth.

Rabies in Wisconsin and Its Control

Dr. Mazyck P. Ravenel, Madison: Rabies is becoming more prevalent throughout the United States. Wisconsin has suffered severely during the last three years. The outbreak entered from the south, apparently beginning at Beloit and worked steadily northeast, with scattering cases in the western part of the state. A large number of farm animals have been lost. Laboratory examination of dogs who have bitten people shows about 50 per cent. of them rabic. Pasteur treatment was begun by the Wisconsin State Hygienic Laboratory and State Board of Health in November, 1909. Many patients were treated with uniform success. Lack of muzzling laws makes control difficult in our state and throughout the country.

MEDICAL SOCIETY OF NEW JERSEY

One Hundred and Forty-First Annual Meeting, held at Spring Lake, June 13-15, 1911

The President, Dr. Thos. H. McKenzie, Trenton, in the Chair

The list of officers elected was given in The Journal, July 15, 1911, page 226.

The Education of a Surgeon

Dr. Joseph A. Blake, New York City: In our present school and hospital organizations there is no provision for systematic training of surgeons. The education of a young surgeon is carried out well and methodically up to the end of his intern service in a hospital. He is then left to his own resources until he gets a hospital appointment as visiting surgeon. The period between his intern service and his acquirement of a visiting position averages at least five years, the years that are the most impressionable and therefore the most valuable in the receptive sense. Even when he becomes a visiting surgeon his services are short and spasmodic and until he acquires a large private practice his experience is in no way continuous. To remedy this state of affairs it is proposed in the large hospitals having continuous services to create, as it were, a postgraduate course of six years. For this course, men would be selected from the outgoing surgical house staff of the hospital and would each serve one year as assistant resident, one year as resident, two years as assistant visiting surgeon with assignment of duties in the laboratories of surgical pathology and experimental surgery in addition to duty in the wards and operating room, and two years as assistant visiting surgeon with duties in the out-patient department as well as the wards and operating rooms. In these last two years the appointees should also be demonstrators of anatomy in a medical school. It is obvious that such a course could only be carried out to the best advantage in a university hospital. The full organization of a surgical staff of such a hospital for 100 beds should be a chief, or director of the surgical staff; a visiting surgeon, two associate visiting surgeons, all of which would hold permanent positions; and four assistant visiting and two resident surgeons constituting the rotating members of the staff, as above described. It is believed that such an arrangement would be of great benefit to the institution as well as to the young surgeons. The latter would get a splendid experience, in surgery, pathology and anatomy, and should be able to fill with credit any hospital position to which they might be called.

Two Cases of Splenectomy

Dr. John C. McCoy, Paterson: In both my cases of extirpation following traumatism of the spleen, eighteen months and seven months after operation, respectively, the general condition seems to have remained as good as it was prior to the loss of the organ. Both patients have gained in weight and are able to take part in athletic exercises. During the past three years, I have seen four cases of rupture of the spleen, two of which could be attributed to direct violence. Removal of the spleen was followed by a fatal result in one of these cases.

Chronic Gastritis of Secondary Origin, Presenting the Phenomenon of Achlorhydria Hemorrhagica Gastrica

Dr. James T. Pilcher, Brooklyn: Observations were made from examinations in a series of 4,000 patients. Of this number, 271 presented lack of free hydrochloric acid and presence of occult blood. In 156 of these patients the onset of the gastric symptoms was traceable to certain infectious diseases, circulatory disturbances, derangement of ductless glands, and various forms of abdominal operations; in 100 others, the symptoms of extra-gastric pathologic conditions were evident, and exploratory operations were done, revealing distinct involvements of the appendix in 36, of the gall-bladder in 32, of the gall-bladder and pancreas together in 16, and of the gall-bladder and appendix together in 12. Of the 100 patients with achlorhydria hemorrhagica gastrica operated on, in 24 there was a distinct spasm of the pylorus, accompanying appendicitis 18 times and gall-bladder involvement 6 times. Insufficiency of hydrochloric acid is a reflex nervous phenomenon. The conclusion that the gastric lesion is not the causative factor is supported by the fact that in 88 of the 100 abdominal explorations in which there was direct exploration and palpation of the stomach no gross change in the stomach walls could be demonstrated. Bacterial flora are a second factor in the production of this symptom. Large numbers of bacteria are always present in the fluids extracted from these stomachs. Streptococci, diplococci and colon bacilli are almost always found. The growth of these bacteria is dependent solely on the lack of the inhibiting action of the hydrochloric acid. A third factor is the presence of superficial erosions of the mucosa and round cell infiltration. The diagnosis is to be determined by the analysis of stomach contents. Free hydrochloric acid is never present; blood reaction is always present.

DISCUSSION

Dr. Thomas W. Harvey, Orange: There is no organ that may not send a reflex influence back to the stomach, causing to appear in that organ symptoms often so severe as to cause us to overlook the original disease. Usually, in studying etiology, too little attention is given to the effect of continuous disturbances of function as a cause of pathologic changes. Changes in the nervous or circulatory supply of a distant organ will have an important reflex influence on the stomach and its secretions; this may produce a train of symptoms simulating serious pathologic conditions.

Dr. Frank D. Gray, Jersey City: No one should pass over a case without knowing what a test for free hydrochloric acid and a test for occult blood will show. These tests are not beyond the capacity of the general practitioner; but if we do not feel competent to make these tests ourselves, most of us are within reach of a pathologic laboratory.

A Plea for a High Standard of Medical Education

Dr. Thomas H. McKenzie, Trenton: It is the duty of the state to protect the public from unscrupulous practitioners by enacting laws that will eliminate entirely from the practice of medicine those not qualified for such service. Qualification is determined by measurement with some standard. A medical education standard should be established. The federal government should enact a law creating a Bureau of Medical Education and Sanitation, one of whose duties should be to establish a standard for preliminary medical education. A degree from a medical school would then be a guarantee of efficiency. The over-production of ill-trained men is mainly due to the existence of commercial medical schools. Medical science can make but little progress while it depends on such mercenary institutions as its source of inspiration. A federal bureau would have the power to regulate this evil. In the absence of such a bureau, we must look to the progressive, public-spirited and well-endowed medical schools; to the state medical boards; and to whatever results may be obtained from the agitation instigated by the American Medical Association. Improvement in medical education has been rapidly accomplished since the organization of the Council on Medical Education in 1904. The Association of American Medical Colleges has discussed the standards of medical education with a view to their improvement. The result is that nearly all colleges are now requiring, in addition to the high-school course, one or more years of college work. The good offices of the New Jersey State Board have been somewhat handicapped by our defective laws regulating medical practice. The medical society has for three successive years asked in vain for relief. The legislature seems to suspect that we ask for such legislation for our own selfish ends. The mind of the general public should be disabused of such false notions. The medical profession should organize a campaign of education and seek to set the matter in the proper light.

Oration in Medicine: Advances in the Knowledge of the Circulatory System

Dr. George W. Norris, Philadelphia: Percussion, auscultation, etc., will probably never be superceded by other methods of studying the circulation, but they have been materially abetted by various procedures. Among these, the auscultating method of estimating blood-pressure, especially by a study of the five phases of Korotkow, the practice of sphygmography, the orthodiagraph, the electric cardiogram, and the plethysphygmograph are important. I would urge the primary importance of diet, hygiene, mode of life and physical methods of treatment, in contradistinction to the secondary rôle of any therapy. The practice of massage on the part of the youthful or less busy practitioner would save many a patient from the osteopath and his kin. Thanks to recent investigations, much more accurate knowledge regarding digitalis and strophanthus is available, and much more reliable preparations are to be had. The newer patented preparations of the former drug have not proved so generally superior to the ordinary preparations as to counterbalance their increased cost. The newer conceptions regarding the cardiovascular system in health and disease include the myogenic doctrine; the importance of vascular, as well as cardiac, compensation; the frequency of syphilis as an etiologic factor; and that of low-grade chronic infection as a cause of progressive endocarditis.

Advantages of the Necropsy

Dr. Harrison S. Martland, Newark: The greatest importance of the autopsy is shown in the proper signing of the death certificate. Clinicians who have followed their cases to the autopsy table all admit that a large percentage of their cases are ones of mistaken diagnoses. How amusing then is the filing of vital statistics, by the Bureau of Census, for instance, on the causes of death in the United States, since in only a small percentage is a control by autopsy made. Our clinical diagnoses are too faulty to be accepted for statistical purposes. Vital statistics concerning death would be greatly improved if all the states adopted an appendix to the death certificate, for purpose of filing the pathologic anatomic causes of death in case an autopsy is performed. The greatest scientific advantage of the autopsy is perhaps seen in the combined consideration of the anatomic lesions at autopsy with the clinical picture of the disease. In order to obtain this, constant commingling of clinician and pathologist in the wards and laboratory is necessary. The study of clinical data to formulate a diagnosis in connection with the proof of the correctness of the clinical data is the only ideal method of teaching medicine. Such courses should be required in all medical schools, as the basis of the medical training. Pathology and medicine should be taught side by side, in the hospital and morgue, and not by separate didactic lectures. I believe that another advantage of the autopsy will be in the restraining of the modern idea of specialization. Autopsies frequently expose the narrow-mindedness of various specialists even the most talented of them.

Dr. Edward E. Worl, Newark: In compiling vital statistics, one sometimes comes across diagnoses that cannot be classified by any system. Official autopsies would settle the question in many cases of this kind. It seems to me, however, that in some cases of infectious disease the anatomic findings would not correspond with the essential etiologic factor. There should be a law in the state to compel an official autopsy in every case, no matter what the diagnosis of the family physician may be.

Excision of the Superior Maxilla for Sarcoma of the Antrum

Dr. Walter B. Johnson, Paterson: My patient was a woman, thirty-three years of age, with no history of cancerous disease. The injury, which occurred one year previous to operation, was followed by swelling, which persistently increased in size. It involved and filled the nostril, exfoliated the teeth, perforated the palate, entered the orbital cavity, and involved the nasal and ethmoid bones. The operation was performed in the usual manner, curetting the ethmoid. The patient was discharged in three weeks. The pathologic report was alveolar sarcoma, spindle-cell variety. At this time, fourteen months after the operation, no symptoms of recurrence of the disease are evident.

Association News

PROCEEDINGS OF THE LOS ANGELES SESSION

(Continued from July 8, page 145)

Notice on Section Transactions

Those who desire copies of the 1911 Transactions of any of the sections, but whose names are not on the permanent subscription list, should order at once, as printing has already commenced. Only enough are printed to supply what is considered the probable demand, and each year some persons order too late to be supplied. Each volume is a cloth-bound book containing the articles and discussions in that particular section. A volume is issued for each section except the Section on Stomatology. The Section on Dermatology and the Section on Genito-Urinary Diseases held no meetings at Los Angeles and the Section on Hospitals is a new section which has held no meeting. For none of these four, therefore, will there be any bound volume of Transactions for the year 1911. When ordered in advance, each book costs the subscriber $1.00, payable at time of delivery.

It is to be remembered that one may give a permanent order for Transactions; and those specified are sent, from year to year, until the order is cancelled. Address orders to the American Medical Association, 535 Dearborn Avenue, Chicago.

Minutes of Sections

The minutes of the proceedings of the various sections which held meetings at the Sixty-Second Annual Session, held at Los Angeles, June 27 to 30, 1911, are given below—except those of the Section on Stomatology, which had not been received when these pages went to press.

SECTION ON PRACTICE OF MEDICINE

Tuesday, June 27—Afternoon

The meeting was called to order at 2:15 p. m., in the Majestic Theater, by the Chairman, Dr. Allen A. Jones, Buffalo.

Dr. H. A. Giltner, U. S. N., read a paper on "Verruca Peruana or Carrion's Disease." No discussion.

Dr. C. M. Richter, San Francisco, read a paper on "The Epidemiology of Pneumonia." No discussion.

Drs. Walter Brem and F. C. Watson, Cristobal, Canal Zone, presented a paper on "Successful Treatment of a Typhoid Bacillus-Carrier by Vaccination." Discussed by Drs. Frank Billings, Percy M. Ashburn, William Litterer and Walter Brem.

Dr. F. M. Pottenger, Monrovia, Cal., read a paper on "Causation and Treatment of Fever in Tuberculosis." Discussed by Drs. Edward F. Wells, Norman Bridge, Frank Billings, Philip King Brown, C. F. Tenney and F. M. Pottenger.

Dr. Norman Bridge, Los Angeles, read a paper on "Streptothrix (Actinomycosis) of the Lungs." No discussion.

Dr. N. W. Jones, Portland, Ore., read a paper on "Hemorrhagic Erosions of the Stomach." Discussed by Drs. Robert T. Morris, J. F. Hultgen, Philip King Brown and N. W. Jones.

Dr. W. J. Butler, Chicago, read a paper on "Immuno-Diagnostics in Internal Medicine." Discussed by Drs. F. M. Pottenger and W. J. Butler.

The Chairman: I wish at this time to interrupt the proceedings for a short time to announce the Nominating Committee: On this committee, I will appoint the following: Drs. W. Jarvis Barlow, Los Angeles; Henry B. Favill, Chicago, and Alexander Lambert, New York. Because of the absence of Dr. Joseph Miller, who serves on the Executive Committee, I will appoint in his place Dr. Herbert Moffit, San Francisco.

Dr. J. F. Hultgen, Chicago, read a paper on "The Leukocytology of Typhoid and Paratyphoid Fevers." No discussion.

Wednesday, June 28—Morning

Dr. W. Jarvis Barlow, Los Angeles, read a paper on "Effects on Secondary Anemia by Hypodermic Injections." Discussed by Drs. Alexander Lambert, Bonnell, Samuel D. Swope, Dudley Fulton and W. Jarvis Barlow.

Dr. Edward F. Wells, Chicago, read a paper on "Reserve Renal Capicity in Chronic Interstitial Nephritis." Discussed by Drs. Frank Billings, Alexander Lambert, W. L. Bierring and Edward F. Wells.

Dr. Roger I. Lee, Boston, read a paper on "Pathologic Findings in Hypertension." Discussed by Drs. William Ophuls, Edward F. Wells, Frank Billings, C. F. Hoover, Charles L. Greene, W. L. Bierring, Percy M. Ashburn and Roger I. Lee.

Dr. Charles L. Greene, St. Paul, Minn., read a paper on "New Clinical Values in the Treatment of the Gastric Neuroses." Discussed by Drs. Walter B. Cannon, Frank Billings, W. J. Butler, Seale Harris and Charles L. Greene.

Dr. Alexander Lambert, New York, read a paper on "The Blood-Pressure in Pneumonia." Discussed by Drs. Dudley Fulton, Wilder Tileston, Percy M. Ashburn and Alexander Lambert.

Drs. H. D. Arnold and R. C. Larrabee, Boston, presented a paper on "The Importance of the Quantitative Regulation of Diet." Discussed by Dr. Wilder Tileston.

Drs. J. M. Anders and A. C. Morgan, Philadelphia, presented a paper on "Pleurisy and Empyema in Pneumonia." Discussed by Drs. J. N. Hall, Everett J. Brown, C. F. Hoover and A. C. Morgan.

Wednesday, June 28—Afternoon

Symposium on Syphilis.

Dr. L. S. Schmitt, San Francisco, read a paper on "Laboratory Diagnosis of Syphilis."

Dr. Frank Billings, Chicago, read a paper on "Visceral Syphilis."

Dr. Albert Keidel, Baltimore, read a paper on "Value of the Wassermann Reaction and of Salvarsan."

Dr. D. W. Montgomery, San Francisco, read a paper on "Disadvantages Incident to the Administration of Salvarsan."

Dr. W. T. Wootton, Hot Springs, Ark., read a paper on "Adequate Treatment of Syphilis."

These five papers were discussed by Drs. Howard Fox, W. J. Butler, C. F. Hoover, Harry Reeves Olliver, Harvey G. Parker, William Litterer, G. H. Aiken, John H. Graves, William W. Graves, B. H. Orndorff, Percy M. Ashburn, H. S. Plummer, L. S. Schmitt, Frank Billings, D. W. Montgomery and W. T. Wootton.

Thursday, June 29—Morning

Dr. A. J. Hodgson, Waukesha, Wis., read a paper on "Treatment of Diabetes." Discussed by Drs. Robert T. Morris, Edward F. Wells, H. B. Favill, Wernigk, A. J. Ochsner and A. J. Hodgson.

Dr. G. W. McCoy, San Francisco, read a paper on "Bubonic Plague with Special Reference to that of Ground-Squirrel Origin." Discussed by Drs. Edward F. Wells and G. W. McCoy.

Dr. H. S. Plummer, Rochester, Minn., read a paper on "Relation of the Symptomatology and Pathology to Operative Mortality in Exophthalmic Goiter." Discussed by Drs. C. H. Mayo, Martin B. Tinker and H. S. Plummer.

Dr. W. E. Musgrave, Manila, P. I., read a paper on "Treatment of Intestinal Amebiasis." Discussed by Drs. Walter Brem, Percy M. Ashburn, Louis B. Wilson and W. E. Musgrave.

Dr. J. W. Draper Maury, Rochester, Minn., read a paper on 'Experimental Work on Intestinal Auto-Intoxication." Discussed by Dr. W. T. Councilman.

Report of the Nominating Committee. Dr. Alexander Lambert made this report: Chairman, Dr. Wilder Tileston, New Haven, Conn.; Vice-Chairman, Dr. Walter L. Bierring, Des Moines, Ia.; Secretary, Dr. Roger S. Morris, Baltimore; Orator, Dr. Charles L. Greene, St. Paul, Minn.; Delegate, Dr. J. A. Capps, Chicago, and Alternate Delegate, Dr. S. W. S. Toms, Nyack, New York.

Dr. Lambert: I move that the action on this report be deferred until after the orator's address this afternoon when a larger number of members will be present. Seconded. Carried.

Drs. G. R. Satterlee and L. T. Le Wald, New York, presented a paper on 'Some Obscure Conditions of the Digestive Tract as Studied by the Roentgen Ray." No discussion.

Drs. W. T. Councilman and C. H. Dunn, Boston, presented a paper on "Myatonia Congenita (Oppenheim); Report of a Case with Autopsy." No discussion.

THURSDAY, JUNE 29—AFTERNOON

Dr. C. F. Hoover, Cleveland, delivered the Oration in Medicine: "A Clinical Study of Disturbances in Rate and Rhythm of Respiration." Discussed by Dr. Henderson.

It was moved and seconded that the report of the Nominating Committee be adopted. Unanimously carried.

Dr. A. W. Hewlett, Ann Arbor, Mich., read a paper on "Infantilism with Disease of the Pituitary Gland." No discussion.

Dr. Dudley Fulton, Los Angeles, read a paper on "A Clinical Study of the Mobility of the Heart." No discussion.

The following papers were read at a Symposium on Poliomyelitis—a joint session with the Section on Diseases of Children.

Drs. Samuel G. Dixon, Harrisburg, Pa., and H. T. Karsner, Philadelphia, presented a paper on "Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania."

Drs. R. W. Lovett and M. W. Richardson, Boston, presented the following papers: "Recent History and Etiology of Infantile Paralysis," "Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis and Treatment of Infantile Paralysis." and "Infantile Paralysis as Observed in Massachusetts, 1907-1910."

These papers were discussed by Dr. Philip King Brown.

SECTION ON SURGERY

TUESDAY, JUNE 27—AFTERNOON

The meeting was called to order by the Chairman, Dr. George W. Crile, Cleveland, who said: "It is with deep regret that I announce the death of Dr. John C. Munro, Boston. I will appoint in his place as a member of the executive committee, Dr. Charles H. Frazier, Philadelphia. I will appoint as chairman of the executive committee Dr. Charles A. Powers, Denver, to take the place of Dr. Rudolph Matas, New Orleans, who is absent."

The following papers were then presented:

Dr. George W. Crile, Cleveland, read his chairman's address: "Newer Methods for Further Increasing the Safety of Surgical Operations." No discussion.

Dr. Charles H. Frazier, Philadelphia, read a paper on "Brachial Palsy." Discussed by Dr. W. W. Grant, Denver.

Dr. Fred B. Lund, Boston, read a paper on "Advantages of the So-Called Decortication of the Lung for Old Empyemata, with Remarks on the Treatment of Empyema; Report of *Cases." No discussion.*

Dr. Robert C. Coffey, Portland, Ore., read a paper on "A Plea for More Direct Methods in Dealing with Gastric Ulcers." Discussed by Drs. J. W. Draper Maury, Rochester, Minn.; W. W. Skinner, Geneva, N. Y.; E. Wyllis Andrews, Chicago; Charles H. Mayo, Rochester, Minn.; A. J. Ochsner, Chicago, and Robert C. Coffey, Portland, Ore.

WEDNESDAY, JUNE 28—MORNING

Dr. L. L. McArthur, Chicago, read a paper on "A New Technic for Rectopexy for Rectal Prolapse." Discussed by Drs. E. Wylly Andrews, Chicago, and L. L. McArthur, Chicago.

Dr. George E. Brewer, New York, delivered the Oration on Surgery: "A Review of Our Present Knowledge of Acute Renal Infections." No discussion.

Dr. E. MacDowell Stanton, Schenectady, N. Y., read a paper on "The End Results of Gall-Bladder Surgery."

Dr. B. B. Davis, Omaha, read a paper on "Factors Hostile to Success in Gall-Bladder Surgery."

These two papers were discussed by Drs. Robert T. Morris, New York; A. J. Ochsner, Chicago; J. F. Percy, Galesburg, Ill.; F. L. Hupp, Wheeling, W. Va.; E. M. Stanton, Schenectady, N. Y., and B. B. Davis, Omaha.

Dr. George G. Ross, Philadelphia, read a paper on "Subphrenic Abscess the Result of Acute Inflammation of the Vermiform Appendix."

Dr. Van Buren Knott, Sioux City, Ia., read a paper on "The Treatment of Localized Appendicular Abscess."

These two papers were discussed by Drs. Thomas W. Huntington, San Francisco; Robert T. Morris, New York; W. W. Grant, Denver; Archibald McLaren, St. Paul; A. J. Ochsner, Chicago, William Fuller, Chicago; William Tunis Reynolds, Kansas City, Mo.; Van Buren Knott, Sioux City, Ia., and George G. Ross, Philadelphia.

Dr. Charles H. Mayo, Rochester, Minn., read a paper on "Lingual, Sublingual and Other Forms of Aberrant Thyroid." No discussion.

Dr. Wallace I. Terry, San Francisco, read a paper on "The Surgical Treatment of Megacolon." Discussed by Drs. J. F. Percy, Galesburg, Ill.; Harold J. Stiles, Edinburgh, Scotland, and Wallace I. Terry, San Francisco.

WEDNESDAY, JUNE 28—AFTERNOON

Mr. Harold J. Stiles, Edinburgh, Scotland, read a paper on "The Pathology and Treatment of Tuberculosis of Long Bones." Discussion was deferred until conclusion of next paper.

Dr. E. R. Le Count, Chicago, moved that the House of Delegates be requested to elect Professor Stiles to honorary membership. Motion seconded by Dr. J. B. Murphy, Chicago. Unanimously carried by *rising* vote. Professor Stiles expressed his thanks for the honor.

Dr. Leonard W. Ely, Denver, read a paper on "The Three Main Rules in the Treatment of Adult Joint Tuberculosis."

The two preceding papers were discussed by Drs. John B. Murphy, Chicago; Thomas W. Huntington, San Francisco; Harold J. Stiles, Edinburgh, Scotland, and Leonard W. Ely, Denver.

(Further discussion was deferred until after the reading of Dr. Guthrie's paper on "Unusual Joint Cases.")

Dr. Stephen H. Watts, Charlottesville, Va., read a paper on "Gonorrheal Osteoperiostitis of Long Bones." No discussion.

Drs. Dean D. Lewis and Carl B. Davis, Chicago, presented a paper on "Direct Experimental Transplantation of Tendons and Fascia." Discussed by Drs. Leonard W. Ely, Denver; Kenneth A. J. Mackenzie, Portland, Ore.; Joseph Kurtz, Los Angeles, and Dean D. Lewis, Chicago.

Drs. Fred T. Murphy and Beth Vincent, Boston, presented a paper on "An Experimental Study of the Cause of Death in Acute Intestinal Obstruction." Discussed by Drs. J. W. Draper Maury, Rochester, Minn.; Fred B. Lund, Boston; Willard Bartlett, St. Louis, and Fred T. Murphy, Boston.

Dr. Edward S. Judd, Rochester, Minn., read a paper on "A Study of 500 Cases of Prostatectomy." Discussed by Drs. Archibald MacLaren, St. Paul; Charles E. Barnett, Fort Wayne, Ind.; Granville MacGowan, Los Angeles; Charles D. Lockwood, Pasadena, Cal., and Edward S. Judd, Rochester, Minn.

Dr. James F. Mitchell, Washington, D. C., read a paper on "Sensibility of the Peritoneum and Abdominal Viscera." Discussed by Dr. W. Le Moyne Will, Los Angeles.

THURSDAY, JUNE 29—MORNING

Dr. Charles H. Mayo, Rochester, Minn., presented the report of the Executive Committee, nominating officers of the Section for the ensuing year, as follows: Chairman, Dr. Thomas W. Huntington, San Francisco; Vice-Chairman, Dr. George W. Guthrie, Wilkes-Barre, Pa.; Secretary, Dr. Fred T. Murphy, St. Louis; Delegate, Dr. H. A. Royster, Raleigh, N. C.; Orator, Dr. L. L. McArthur, Chicago. Motion made, seconded and unanimously carried, adopting the report and electing the nominees.

Dr. H. A. Royster moved a vote of thanks to the local committee. Motion seconded and unanimously carried.

Dr. A. F. Jonas, Omaha, read a paper on "Spinal Fractures." Discussed by Drs. H. W. Howard, Los Angeles; Stanley Stillman, San Francisco; C. P. Thomas, Los Angeles; Charles David Strong, San Bernardino, Cal.; Harvey Cushing, Baltimore, and A. F. Jonas, Omaha, Neb.

Dr. George W. Guthrie, Wilkes-Barre, Pa., read a paper on "Several Unusual Joint Cases; Their Treatment and the Results."

Discussion (including further discussion of papers by Mr. Stiles and Dr. Ely) by Drs. Harry M. Sherman, San Francisco, and S. T. Hunkin, San Francisco. Further discussion postponed until the conclusion of the reading of papers on fractures.

Dr. R. W. Corwin, Pueblo, Colo., read a paper on "Thirty Years' Experience with Fractures at Minnequa Hospital; Treatment and Results."

Dr. Robert T. Morris, New York, read a paper on "Pinning Fractures Through a Cannula with the Aid of the Fluoroscopic Screen."

Drs. Willard Bartlett and W. R. Hewitt, St. Louis, presented a paper on "Clinical and Experimental Work *to* Determine the Value of Lane's Plate in the Treatment of Fractures."

Dr. Edward Martin, Philadelphia, read a paper on "The Open Treatment of Fractures of the Shafts of the Long Bones." The five preceding papers were discussed by Drs. Rexwald Brown, Santa Barbara, Cal.; Herman E. Pearse, Kansas City, Mo.; Fred B. Lund, Boston; W. Le Moyne Wills, Los Angeles; William Fuller, Chicago; W. A. Mitchell, Colfax, Wash.; John Rogers, New York; Frank Warner, Columbus, Ohio, and R. W. Corwin, Pueblo, Colo.

Thomas W. Huntington, San Francisco, Chairman-Elect, was then presented to the Section and made remarks.

Dr. E. Wyllys Andrews, Chicago, read a paper on "New Mechanical Devices for Closing Wounds."

THURSDAY, JUNE 29—AFTERNOON

Dr. John Rogers, New York, read a paper on "A Theory for the Pathologic Physiology Involved in Diseases of the Thyroid Gland and Its Therapeutic Application."

Dr. Martin B. Tinker, Ithaca, N. Y., read a paper on "Factors Influencing the Safety of Surgical Treatment for Goiter."

These two papers were discussed by Drs. A. J. Ochsner, Chicago; John Rogers, New York, and Martin B. Tinker, Ithaca, N. Y.

Dr. Stanley Stillman, San Francisco, read a paper on "Lymphangiomata of the Omentum and Omental Cysts." No discussion.

Dr. H. A. Royster, Raleigh, N. C., read a paper on "Tumors of the Mesenter." No discussion.

Dr. James E. Moore, Minneapolis, read a paper on "A Plea for Larger Incisions and More Thorough Examinations in Abdominal Surgery."

Dr. James M. Neff, Spokane, Wash., read a paper on "Surgery of the First Portion of the Subclavian Artery, with Report of a Case of Successful Ligation." Discussed by Dr. Robert C. Coffey, Portland, Ore.

Dr. Charles A. Powers, Denver, read a paper on "Woody Phlegmon of the Neck (Reclus)." Discussed by Dr. Frank Le Moyne Hupp, Wheeling, W. Va.

Dr. Cassius C. Rogers, Chicago, read a paper on "Brain Surgery." No discussion.

The Chairman, speaking for the Section and the officers, expressed "Great indebtedness for the services of Dr. William Le Moyne Wills, Dr. Ray Smith, Dr. C. W. Anderson and Dr. Edward F. Gillan, whose untiring labors have assisted us so much in the carrying out of this program." He also expressed "special appreciation of the services of your very efficient secretary, Dr. John T. Bottomly of Boston."

"Then, finally, I wish personally to express my deep appreciation of the kindly way in which you have overlooked the many shortcomings of the presiding officer."

A motion was then made, seconded and unanimously carried, closing the session of the Section on Surgery for the year.

SECTION ON OBSTETRICS AND GYNECOLOGY

TUESDAY, JUNE 27—AFTERNOON

The Section met in Berean Hall of the Baptist Auditorium and was called to order at 2 p. m. by the Chairman Dr. H. G. Wetherill of Denver.

Dr. Charles D. Lockwood of Pasadena read a paper on "Carcinoma of the Clitoris and Report of a Case." No discussion.

Dr. E. M. Lazard of Los Angeles read "Torsion of a Subserous Pedunculated Fibroid Complicating Pregnancy at Four and a Half Months. Operation; Recovery, with Delivery at Term." The paper was discussed by Dr. J. S. Baer of Camden, N. J.

A paper entitled "Adiposity of the Mammary Glands" by Dr. J. R. Guthrie of Dubuque, Ia., and Henry Albert of Iowa City, Ia., was read by Dr. Guthrie. No discussion.

Dr. A. E. Benjamin of Minneapolis read a paper entitled "The Exciting Causes, Means of Prevention and Early Treatment of Cancer of the Uterus." Discussion by Drs. J. S. Baer, Camden, N. J.; Arthur E. Hertzler, Kansas City, Mo.; John O. Polak, Brooklyn; Laura H. Branson, Iowa City; Charles D. Lockwood, Pasadena, Cal.; T. Mitchell Burns, Denver; James T. Reddick, Paducah, Ky.; R. C. Coffey, Portland, Ore.; Henry P. Newman, San Diego; Burke, Redlands; W. B. Dorsett, St. Louis, and A. E. Benjamin.

The Chairman appointed on the Executive Committee Drs. E. E. Montgomery, Philadelphia; Palmer Findlay, Omaha; Henry Parker Newman, San Diego, Cal.; J. H. Jacobson, Toledo, O.

Dr. Arthur E. Hertzler, Kansas City, Mo., read "Relation of Exophthalmic Goiter to Pelvic Disease" which was discussed by Dr. E. M. Lazard of Los Angeles.

Dr. T. M. Mitchell of Denver moved that a committee be appointed by the Section on Obstetrics and Gynecology on obstetric terminology, especially in reference to the anatomy, the bony pelvis, the pelvic floor, the reproductive organs and the fetal head. Seconded and carried.

WEDNESDAY, JUNE 28—MORNING

The Chairman, Dr. Wetherill, called the Section to order at 9:30 and announced the following Committee on Obstetric Terminology: Drs. T. Mitchell Burns, Denver, Chairman; J. B. DeLee, Chicago; F. J. Taussig, St. Louis; George E. Piersol, University of Pennsylvania; J. Clifton Edgar, New York.

Dr. W. F. Braasch of Rochester, Minn., read "The Value of Pyelography," which was illustrated by lantern slides. The paper was discussed by Drs. E. E. Montgomery and H. G. Wetherill.

Dr. J. H. Jacobson and Dr. J. G. Keller of Toledo presented a paper on "Postoperative Urinary Retention and Cystitis," which was read by Dr. Jacobson.

Dr. M. L. Harris of Chicago read a paper on "Pericystitis."

These two papers were discussed by Drs. E. E. Montgomery, Philadelphia; W. R. P. Clark, San Francisco; W. B. Dorsett, St. Louis; A. E. Benjamin, Minneapolis; Jule B. Frankenheimer, San Francisco; J. H. Jacobson and M. L. Harris.

WEDNESDAY, JUNE 28—AFTERNOON

The Section was called to order at 2:20 by the Chairman.

Dr. W. B. Dorsett took the Chair and Dr. Wetherill gave the Chairman's Address entitled "Retrospection and Introspection: Our Opportunities and Obligations." No discussion.

Dr. Henry Parker Newman moved that a vote of thanks be extended to the retiring Chairman for his work and for his valuable address. Seconded and carried.

Dr. Philander A. Harris of Paterson, N. J., moved that the phase of the Chairman's Address bearing on the proposed change in the official name of the Section be referred to a committee which should report to, and if it were thought desirable, present resolutions to the House of Delegates. Seconded and carried.

Dr. Franklin H. Martin of Chicago read a paper on "Pathologic Kinks and Adhesions in the Terminal Portion of the Ileum." The paper was discussed by Drs. Dorsett, Hertzler, Louis J. Hirschmann of Detroit; C. E. Barnett, Ft. Wayne, and F. H. Martin.

Dr. Walter B. Dorsett of St. Louis contributed "Personal Observations in Treatment of One Hundred and Forty Consecutive Cases of Uterine Myoma." Discussion by Dr. Albert Goldspohn, Chicago; John Osborn Polak, Broowlyn, and W. B. Dorsett.

The Chairman introduced Mr. Harold Stiles of Edinburgh, who spoke (by invitation) on "Chloroform Toxemia." The subject was discussed by Dr. Grant of Portland and Mr. Stiles. A rising vote of appreciation of Mr. Stiles' address was given by the Section.

Dr. R. C. Coffey of Portland, Ore., read a paper on "The Surgical Treatment of Ptosis of Abdominal Organs by Hammock Operation." The paper was discussed by Drs. Benjamin, Goldspohn and Coffey.

The following Committee on the Chairman's Address was announced by Dr. Wetherill: Drs. Philander A. Harris, Paterson, N. J.; F. F. Simpson, Pittsburg, Pa.; C. Jeff Miller, New Orleans.

THURSDAY, JUNE 29—MORNING

The Section was called to order at 9:30 a. m. by the Chairman. The first item of business was the report of the Nominating Committee, as follows: for chairman, Dr. C. Jeff Miller, New Orleans; for Vice-Chairman, Dr. George B. Somers, San Francisco; for Secretary, Dr. F. F. Simpson, Pittsburg; for Member of House of Delegates, Dr. H. G. Wetherill, Denver. On motion, the ballot was cast and the nominees declared elected.

Dr. George B. Somers of San Francisco read a paper on "Operation of Choice in Cases of Ureterovaginal Prolapse in Elderly Women." The paper was discussed by Drs. Philander A. Harris, S. M. D. Clark of New Orleans, L. G. Bowers of Dayton, Frank P. Topping of San Francisco, and G. B. Somers.

Dr. Henry Parker Newman, San Diego, Cal., read "Special Considerations in the Surgical Treatment of the Female Pelvic Organs." The paper was discussed by Dr. White of Chicago and Dr. Newman.

Dr. L. G. Bowers of Dayton read "The Proper Operative Period and Methods of Drainage in Pelvic Infections."

Dr. Philander A. Harris, Paterson, N. J., read "The Employment in Abdominal Surgery of Two Rubber Drainage Tubes with a Single Stab Wound Exit, Instead of a Single Tube with Exit by Incision or Otherwise Wherever Drainage is Desired."

These two papers were discussed by Drs. Frank T. Andrews, L. G. Bowers and P. A. Harris.

Dr. F. F. Simpson of Pittsburg read a paper entitled "Postoperative Complications." No discussion.

Dr. John Osborn Polak of Brooklyn read "Two Years' Experience with Vaccine in Obstetric and Gynecologic Infections." Discussion by Drs. Andrews and Polak.

Dr. E. E. Montgomery read "Primary Carcinoma of the Fallopian Tube." No discussion.

Thursday, June 29—Afternoon

The Section was called to order by the Chairman at 2:15 p. m.

The report of the Committee on Chairman's Address was: "Resolved, That through the Representative of this Section we request the House of Delegates to make the following alteration in the By-Laws of the American Medical Association: Amend Book IV—Scientific Work—Chapter XII—Sections—Section I, Heading 3, to read as follows: 'Obstetrics, Gynecology and Abdominal Surgery.'" It was moved, seconded and carried that the report of the committee be adopted. [The request reached the House too late for action.]

Dr. Palmer Findlay of Omaha read a paper entiled "Prolapse of the Gravid Uterus." Discussion by Drs. Hertzler, Dorsett, Andrews and Findlay.

Dr. C. B. Ingraham read "Pernicious Vomiting of Pregnancy." Discussion by Drs. Polak of Brooklyn, Burns of Denver, Miller of New Orleans, Hassner of Utah, Darling of Boston, Andrews of Chicago, G. R. Neff of Farmington, Iowa, C. T. Palmer of Los Angeles, J. L. Lamb of Watts, Cal., and Ingraham.

Dr. Laura H. Branson of Iowa City read a paper entitled "A Study of Cholecystitis and Cholelithiasis in Their Relation to Pregnancy." Discussion by Drs. Findlay and Branson.

Dr. T. Mitchell Burns of Denver read "Cesarean Section; Indications and Technic; Report of Seventeen Cases." The paper was discussed by Drs. Polak and Burns.

The retiring Chairman expressed his appreciation of the cooperative work of the officers in the success of the meeting, and congratulated the Section on election of Drs. Miller and Simpson as Chairman and Secretary. He moved that a vote of thanks be given to Dr. H. Bert Ellis of Los Angeles and his Committee on Arrangements for their efficient cooperation in the work of the Association at large, and particularly to Dr. M. L. Moore and Carl Kurtz for their arrangements for the meeting of the Section on Obstetrics and Diseases of Women. Seconded. Carried.

SECTION ON OPHTHALMOLOGY

Tuesday, June 27—Afternoon

The Section on Ophthalmology convened in the Parish House of St. Paul's Church, Los Angeles, at 2 p. m., with the chairman, Dr. A. E. Bulson, Jr., Ft. Wayne, Ind., in the chair.

The secretary, Dr. Edgar S. Thomson, New York, introduced Dr. Bulson, who then read his Chairman's Address.

Secretary Thomson announced that as there were some suggestions and recommendations in the address, he deemed it proper that it be referred to a committee. Dr. William F. Mittendorf, New York, moved that a committee be appointed to take action on the recommendations in the chairman's address. Carried.

Dr. Adolf Alt, St. Louis, read a paper on "Healing of Iridectomy Wounds and Thoughts on Its Influence on Glaucoma." Discussed by Dr. Hiram Woods, Baltimore, and by Dr. Alt, St. Louis.

The chairman appointed the following committee on the chairman's address: Drs. William F. Mittendorf, New York; Hiram Woods, Baltimore, and Melville Black, Denver.

Dr. F. T. Rogers, Providence, R. I., read a paper on "The Significance of Non-Syphilitic Retinitis, Based on a Study of the Subsequent History of One Hundred and Eighty-Seven Cases." Discussed by Drs. W. H. Roberts, Pasadena, Cal., Melville Black, Denver; William F. Mittendorf, New York; F. B. Tiffany, Kansas City, Mo.; Hiram Woods, Baltimore, DeWitt C. Bryant, Omaha; William Zentmayer, Philadelphia,
s, Providence, R. I.

Steven Akron, Ohio, read a paper on "The
lmia and Simple Means for Its
sed by Drs. G. C. Savage,
St. Louis; S. L. Ledbetter, Bir-
Sacramento, Cal.; F. T. Rogers,
, Harrisburg, Pa.; H. W.
Zentmayer, Philadelphia;
, D. W. Greene, Dayton, O.;
m Woods, Baltimore; F. B.
Voorhees, Elmira, N. Y.;
; F. Park Lewis, Buffalo;
Mark D. Stevenson.

Wednesday, June 28—Morning

Dr. J. A. Donovan, Butte, Mont., read a paper on "The Immediate Removal of Traumatic Cataracts." Discussed by Drs. Edward Jackson, Denver; Oscar Dodd, Chicago; W. R. Johnson, Spokane, Wash.; John E. Weeks, New York; W. E. Lambert, New York; E. S. Thomson, New York, and J. A. Donovan.

The committee appointed Tuesday afternoon to report on the Chairman's Address reported as follows:

REPORT OF COMMITTEE ON CHAIRMAN'S ADDRESS

Your committee appointed to report on the Chairman's Address respectfully submit the following: We endorse all the recommendations of the Chairman pertaining to the program. We think that young men who are doing original work should be encouraged to present the results of their work to the Section, and as a means to that end we would suggest that the officers of the Section learn who these men are through trusted members of the Section in the different localities.

We heartily endorse the recommendation for the creation of postgraduate courses in our medical schools, requiring one full year of work, both clinical and didactic, leading to the degree of doctor of ophthalmology.

The presence of a distinguished foreign guest is always desirable, but is to be encouraged when the conditions are favorable. Such invitations should not be indiscriminately distributed.

We recommend that the Knapp Testimonial Fund be encouraged by widespread contributions. The design for the medal as shown is approved.

On motion of Dr. Edward Jackson of Denver the report was adopted as read.

The Chairman, in the absence of the members of the regular Executive Committee, appointed three ex-chairmen of the Section as follows: Dr. G. C. Savage, Nashville; Dr. Edward Jackson, Denver, and Dr. John E. Weeks, New York. The Chairman instructed the members of the Executive Committee that a vice-chairman was to be selected and also an alternate delegate in addition to the other officers of the Section.

Dr. D. W. Greene, Dayton, Ohio, read a paper on "The Medical Treatment of the Patient Before and After Cataract Extraction." Discussed by Dr. William F. Mittendorf, New York; F. T. Rogers, Providence, R. I.; G. C. Savage, Nashville, Tenn.; W. H. Woodruff, Joilet, Ill.; F. P. Calhoun, Atlanta, Ga., and D. W. Greene.

Dr. Vard H. Hulen, Houston, Texas, read a paper on "Vacuum Fixation of the Lens and Flap Suture in the Extraction of Cataract in Its Capsule." Discussed by Drs. G. C. Savage, Nashville; D. W. Greene, Dayton; George E. Bellows, Kansas City; John E. Weeks, New York; Mark D. Stevenson, Akron, Ohio; Melville Black, Denver; James W. May, Kansas City, Kan.; Edward Jackson, Denver; Frederick Stauffer, Salt Lake City; William F. Mittendorf, New York, and Vard H. Hulen.

Dr. F. Park Lewis, Buffalo, read a paper on "Intra-Ocular Neoplasms, with Report of Five Cases." Discussed by Drs. G. C. Savage, Nashville; William F. Mittendorf, New York; Edward Jackson, Denver; Adolf Alt, St. Louis; Hiram Woods, Baltimore; J. A. Donovan, Butte; W. H. Roberts, Pasadena; William Zentmayer, Philadelphia; Carl S. G. Nagel, San Francisco; Thomas J. McCoy, Los Angeles; Archibald A. Macleish, Los Angeles; DeWitt C. Bryant, Omaha; A. E. Bulson, Jr., Ft. Wayne; John E. Weeks, New York; E. S. Thomson, New York, and F. Park Lewis.

Wednesday, June 28—Afternoon

Dr. Harvey Cushing, Baltimore, read a paper on "Distortion of the Visual Fields Observed in a Series of 200 Cases of Brain Tumor." Discussed by Drs. Sherman Voorhees, Elmira, N. Y.; Hiram Woods, Baltimore; Walter S. Franklin, San Francisco; John E. Weeks, New York; Arthur C. Thorpe, Los Angeles and Harvey Cushing.

Dr. Sherman Voorhees, Elmira, N. Y., read a paper on "Report of Nine Cases of Brain Tumor, with Remarks." Discussed by Drs. A. L. Macleish, Los Angeles, Harvey Cushing, Baltimore, and Sherman Voorhees.

Dr. Edward Jackson, Denver, read a paper on "The Optometry Question." At the conclusion of his paper, he read and moved the adoption of resolutions which were unanimously adopted and referred to the House of Delegates [and were later approved by that body, as appears in the minutes of the House of Delegates, The Journal, July 8, 1911, p. 141].

In the absence of Dr. John C. Bossidy, Boston, Chairman of the Section Committee on Optometry, the Secretary was instructed to read the report of that committee, as follows:

REPORT OF THE COMMITTEE ON OPTOMETRY

The Committee on Optometry, appointed by the Section on Ophthalmology of the American Medical Association, report that they prepared a history of optometry and optometry schools, and of the working of optometry laws; that such matter was published in the *Bulletin of the American Medical Association*, Nov. 15, 1910, and was distributed in various states where optometry legislation was sought during the current year.

Bills to legalize the practice of optometry were introduced in sixteen states. Oklahoma and New Hampshire passed such bills, as the medical profession did not arise in active opposition. In all other states (notably in Texas, Missouri, South Carolina, Alabama, Illinois, Ohio, Colorado, Pennsylvania, New Jersey, Connecticut) the opticians met active opposition and failed in their efforts.

In 1912, legislatures will convene in Georgia, Mississippi, Kentucky, South Carolina, Louisiana, Virginia, New Jersey, Massachusetts and Maryland. If the medical profession intends to oppose the further extension of such legislation, an early and active campaign should be instituted.

John C. Bossidy, M.D.
James Thorington, M.D.
Committee on Optometry.

The report was accepted.

Dr. Jackson's paper and resolutions were discussed by Drs. W. E. Lambert, New York; Samuel Voorhees, Elmira, N. Y.; W. H. Roberts, Pasadena; F. Park Lewis, Buffalo; J. A. Donovan, Butte; Melville Black, Denver; M. W. Ward, Woodland, Cal.; H. S. Miles, Bridgeport, Conn; Hiram Woods, Baltimore; S. L. Ledbetter, Birmingham, Ala.; J. H. McLeod, Santa Rosa, Cal., and Edward Jackson, Denver.

Drs. Oscar Dodd and Francis A. Lane, Chicago, presented a paper on "Tuberculous Cyclitis, Following Non-Perforating Injury to the Eye." Discussed by Drs. B. F. Church, Redlands; John E. Weeks, New York; J. A. Donovan, Butte, and Oscar Dodd.

Thursday, June 29—Morning

The following instruments and appliances were exhibited and described:

Dr. J. N. Risley, Philadelphia, exhibited an electric headlight for diagnostic purposes. The principal advantage in the light was that it was placed parallel with the eyes without any reflection.

Dr. Risley also exhibited a modification of the Wurdemann transilluminator, with different points in addition to the ocular illumination. It was simply an extension of the dark rod which permitted its being carried intranasally and allowed of complete transillumination in any direction.

Dr. F. B. Tiffany, Kansas City, exhibited an iridotomy instrument. "The instrument of Noyes wabbles when one attempts to make it cut; not only that, but it cuts with the lower blade and in making the cut in the iris you may strike the cornea. The improved instrument has an alligator blade, cutting on the upper side, with a firm hold. The iris is stabbed with the lower blade and the cutting is done with the upper with no danger of injuring the cornea. It is on the same plan as the Hartmann instrument for the nose and ear."

Dr. W. H. Roberts, Pasadena, exhibited a writing board invented by a patient which may be used by the blind or by any one in the dark. The board has a guide for the hand, so arranged that the line across the pad can be followed without watching the paper.

Dr. H. W. Woodruff, Joliet, Ill., exhibited two instruments useful in performing the tucking operation. One instrument was for the purpose of inserting the sutures and was similar to an aneurysm needle but on a smaller scale. They were made right and left. The other instrument was for measuring the amount of deviation in the eye and comparing it with the amount of tucking to be made. There was a graduated arc on the reverse side of the instrument graduated in millimeters, and a little catch similar to the stops on an ophthalmoscope.

Dr. Melville Black, Denver, read a paper on "The Venous Pulse and Blanching of the Retinal Vessels Induced by Making Pressure on the Eye-Ball an Index to the General Blood-Pressure." Discussed by Drs. H. S. Miles, Bridgeport, Conn.; Edward Jackson, Denver, and Melville Black.

Dr. Hiram Woods, Baltimore, read a paper on "Subhyaloid and Vitreous Hemorrhages." Discussed by Drs. W. H. Roberts, Pasadena; Adolf Alt, St. Louis; Melville Black, Denver; Edward Jackson, Denver; William F. Mittendorf, New York; Carl S. G. Nagel, San Francisco; H. W. Woodruff, Joliet, Ill.; C. D. Wescott, Chicago; F. T. Rogers, Providence; Marcus C. Findley, Grant's Pass, Ore.; John E. Weeks, New York; A. E. Bulson, Jr., Ft. Wayne; William Zentmayer, Philadelphia; E. S. Thomson, New York; William Mittendorf, New York, and Hiram Woods.

No member of the Committee on Collective Investigation Concerning the Ocular Muscles being present a report was not made, and on motion the committee was continued and the report carried over for another year.

Dr. G. C. Savage, Nashville: "Mr. Chairman, I do not wish to speak against the motion, but simply rise to a question of personal privilege. It is not my disposition to take advantage of any man or situation. It was suspected when this report was made that the battle royal would be fought out on the Pacific Coast. I am willing to give the boys another chance. But I want to say that it was possible that this report would be presented and as I couldn't take more than five minutes' time in the discussion I made a little publication which has already gone into the hands of many of you. If the writer of that letter is alive one year hence he will be prepared to defend everything he has said."

The motion carried and the committee was continued.

Dr. D. W. Greene, Dayton, explained that no members of the committee to report on the Smith-Indian cataract operation, of which he was chairman, except himself and Dr. Edward Jackson were present, and they were not ready to report. He therefore moved that the committee be continued for another year and that the chair appoint five additional members of the committee, from among men who had been in India and seen the Smith operation. He named men who had visited India. The Chairman insisted that the new members of the committee must be members of the Section. Dr. G. C. Savage therefore offered a substitute for Dr. Greene's motion to the effect that the committee be continued and that the members be authorized to add five to their number from the active members of the Section. The substitute motion was accepted and adopted by the Section.

Dr. H. W. Woodruff, Joliet, Ill., read a paper on "Shortening of an Ocular Muscle by Tucking." Discussed by Drs. G. C. Savage, Nashville; F. B. Tiffany, Kansas City, Mo.; Vard H. Hulen, Houston, Texas; Edward Jackson, Denver; James W. May, Kansas City, Kan.; C. D. Wescott, Chicago; William Zentmayer, Philadelphia; Oscar Dodd, Chicago; E. W. Alexander, San Francisco; Robert W. Miller, Los Angeles, and H. W. Woodruff.

Dr. G. C. Savage, Nashville, read a paper on "The Ocular Conjugate and Fusion Brain Centers; Only Two Axes of Ocular Rotations, and Only Two Planes of Reference." Discussed by Drs. Melville Black, Denver; Hiram Woods, Baltimore, and G. C. Savage.

Thursday, June 29—Afternoon

The Executive Committee recommended the following officers for the ensuing year: Chairman, Dr. Adolf Alt, St. Louis; Vice-Chairman, D. F. T. Rogers, Providence, R. I.; Secretary, Dr. Edgar S. Thomson, New York; Delegate, Dr. Hiram Woods, Baltimore, and Alternate, Dr. John A. Donovan, Butte, Montana.

On motion the report was received and unanimously approved by the Section.

Dr. F. Phinizy Calhoun, Atlanta, Ga., read a paper on "Plastic Surgery of the Eyelids, Using the Wolffe Graft." Discussed by Drs. John E. Weeks, New York; F. B. Tiffany, Kansas City, Mo.; William Zentmayer, Philadelphia; W. E. Lambert, New York, and F. P. Calhoun.

Dr. William Zentmayer, Philadelphia, read a paper on "Changes Occurring in the Refraction of Corrected Ametropic Eyes." Discussed by Drs. W. E. Lambert, New York; C. D. Westcott, Chicago; G. C. Savage, Nashville; F. T. Rogers, Providence, R. I.; Mark D. Stevenson, Akron, Ohio.; Hiram Woods, Baltimore; Albert E. Bulson, Jr., Ft. Wayne, Ind., and William Zentmayer.

Drs. Cassius D. Westcott and John B. Ellis, Chicago, presented a paper on "Refraction Changes in Diabetes." Discussed by Drs. William Zentmayer and C. D. Westcott.

Dr. S. L. Ledbetter, Birmingham, Ala., read a paper on "The Psychologic Aspect of Refraction." Discussed by Drs. G. C. Savage, Nashville; William Mittendorf, New York; C. D. Wescott, Chicago; Mark D. Stevenson, Akron, Ohio; Edgar S. Thomson, New York; W. E. Lambert, New York, and S. L. Ledbetter.

The Chairman, Dr. Bulson, expressed his appreciation of the manner in which he had been supported and treated by the Section throughout his eight years of service, first as Secretary and then as Chairman of the Section, and also expressed his appreciation and that of the Section for the arrangements and the entertainment at the present meeting extended by the members and the profession of Los Angeles, California and the Pacific Coast.

On motion of Dr. G. C. Savage a formal vote of thanks was extended to the profession of Los Angeles and California and the Pacific Coast for their efforts in making the meeting a success. He also included in his motion the thanks of the Section to Dr. Bulson for his eight years of service to the Section in the interest of ophthalmology.

On motion of Dr. G. C. Savage the names of the members of the Section who had died during the previous year were read. Tribute was paid to Dr. A. W. Calhoun of Atlanta by Dr. G. C. Savage. Dr. C. J. Kipp was spoken of by Dr. William F. Mittendorf; Dr. L. Connor of Detroit by Dr. A. E. Bulson, Jr.; Dr. A. R. Baker of Cleveland by Dr. Mark D. Stevenson; Dr. Herman Knapp, New York, by Dr. John E. Weeks; Dr. C. A. Oliver of Philadelphia by Dr. William Zentmayer; Dr. C. S. Bull of New York by Dr. Edgar S. Thomson, and Dr. Henry Gradle of Chicago by Dr. C. D. Wescott.

SECTION ON LARYNGOLOGY AND OTOLOGY

Tuesday, June 27—Afternoon

The Chairman, Dr. Dunbar Roy, Atlanta, Ga., called the meeting to order at 2:15 p. m., in the Parish House of St. Paul's Church.

The Chairman announced that Dr. Shambaugh, the Secretary of the Section, was sick at home with typhoid fever. "This is a great disappointment, for Dr. Shambaugh's spirit lends enthusiasm to a meeting. Dr. Shambaugh being absent, I have taken the privilege of appointing Dr. B. R. Shurly of Detroit, Secretary for this session."

Dr. Dunbar Roy, Atlanta, Ga., delivered the Chairman's Address.

Dr. J. F. Barnhill, Indianapolis, addressed the chair as follows: "We have with us Dr. Hugo Frey of Vienna, Austria, who is well known to many of you. I move that the privileges of this floor be extended to Dr. Frey during the session." Seconded. Carried unanimously. Dr. Barnhill: "I move that our secretary pro tem. be instructed to send a lettergram to our worthy secretary, who is sick at home with typhoid fever and unable to be present. Such action would be a privilege and pleasure to us all." Seconded and unanimously passed.

Dr. E. S. Bullock, Silver City, N. Mex., read a paper on "Observations on Tuberculosis in the Southwest."

The Chairman appointed the following Executive Committee: Drs. J. F. Barnhill, Indianapolis; J. H. Bryan, San Francisco, and H. Hastings, Los Angeles. Dr. W. H. Roberts, of Pasadena, Cal., was appointed representative to the House of Delegates.

Dr. Bullock's paper was discussed by Drs. A. H. Andrews, B. R. Carpenter, T. B. Wright, G. B. Webb, B. R. Shurly, A. H. Schermann and E. S. Bullock.

Dr. E. C. Sewall, San Francisco, read a paper on "Histologic Examination of the Faucial Tonsils with Reference to Tuberculosis." Discussed by Dr. Emerson.

Wednesday, June 28—Morning

Demonstration of instruments by Dr. Perry Schoonmaker, New York. "A Newly Modified and Improved Bronchoscope and Its Use in Diagnosis and Treatment of Morbid and Pathological Conditions of the Respiratory and Gustatory Tract." Discussed by Dr. Henry Horn, San Francisco.

Presentation of instrument by Dr. Julius Szymanski, Chicago. "Additional Help Toward Removal of the Tonsils."

Presentation of instrument by Dr. Cullen F. Welty, San Francisco.

Presentation of instrument by Dr. Eugene R. Carpenter, El Paso, Tex. "Tonsil Knife and Dissector." Discussed by Dr. Mark Stevenson and Dr. Emerson.

Presentation of instrument by Dr. Perry Schoonmaker, New York, "Universal Douche Syringe."

Dr. Hugo Frey, Vienna, Austria, read a paper on "Salvarsan Treatment in Its Relation to the Ear." Discussed by Drs. B. R. Shurly, John Adams, P. Schoonmaker, S. Voorhees, Lyle and Frey.

The following invitation was read: "The Eye and Ear Section of the County Medical Society requests your presence at lunch on Wednesday and Thursday, at the California and University clubs." This was accepted by the Section with appreciation.

Dr. B. R. Shurly, Detroit, read a paper entitled: "A Discussion of the Various Pathologic Conditions Involving the Frontal Sinus."

Dr. Henry Horn, San Francisco, read a paper on "Some Lessons Drawn from a Series of Twenty-Eight Cases of Operation on the Sinuses."

The papers of the symposium were discussed by Drs. E. C. Sewall, H. B. Graham, C. F. Welty, S. Voorhees, J. F. Barnhill, W. R. Murray, Frank L. Dennis, B. D. Lustig, J. R. Fletcher, W. E. Briggs, B. R. Shurly and Henry Horn.

Dr. J. R. Fletcher, Chicago, read a paper on "The Recognition of a Serous Labyrinthitis." Discussed by Drs. H. Frey, A. H. Andrews, C. F. Welty, W. P. Eagleton, H. B. Graham and J. R. Fletcher.

Wednesday, June 28—Afternoon

The report of the committee with reference to the deaf child was read by the secretary. The Chairman explained that this committee has been reporting to the Section from year to year what it has been able to accomplish, especially along educational lines. This syllabus has been sent out, hoping that the faculties may be guided by it and that the students may receive some instruction in reference to the care of the deaf child.

It was moved that the report be accepted and that the committee be continued. The motion was seconded with the suggestion that the committee be allowed to add new members, if they see fit. This suggestion was accepted, and the motion passed unanimously.

Some large photographs of microscopic sections were presented by Dr. Carpenter, along the line of Dr. Frey's address.

Dr. Mark D. Stevenson, Akron, O., read a paper on "A Nasal Rubber Tampon."

Symposium on the "Relations of the Nasal Accessory Sinuses and Diseases of the Eye."

Dr. W. E. Sauer, St. Louis, read a paper on "The Anatomic Conditions Which Have a Bearing On the Relation Between the Diseases of the Eye and the Diseases of the Accessory Sinuses."

Dr. A. H. Andrews, Chicago, read a paper on "Eye Complications Arising From Diseases of the Nasal Accessory Sinuses."

Dr. J. H. Bryan, Washington, D. C., read a paper on "Operative Treatment of Suppurative Sinus Diseases Producing Orbital Complications."

The papers of the symposium were discussed by Drs. C. F. Welty, P. Schoonmaker, G. J. Lund, Emerson, A. L. Kelsey, Andrews and Bryan.

Dr. Sherman Voorhees, Elmira, N. Y., read a paper on "Report of Primary Infection of Bulb Sinus and Jugular in a Woman of 56 Years." Discussed by Drs. J. F. Barnhill, W. E. Sauer, P. Schoonmaker, M. D. Stevenson, W. P. Eagleton and S. Voorhees.

Thursday, June 29—Morning

Presentation of instruments by Dr. E. C. Sewall, San Francisco.

The Executive Committee reported the following nominations: Chairman, Dr. George E. Shambaugh, Chicago; Vice-Chairman, Dr. F. P. Emerson, Boston, and Secretary, Dr. Burt Russel Shurly, Detroit.

On separate motions, these officers were declared unanimously elected. Cries for speech elicited the following remarks:

Vice-Chairman Emerson: Gentlemen: "I certainly appreciate the honor, and I will try to do my best during the coming year. I thank you very much."

Secretary Shurly: "I have a very difficult task before me, I am sure, to keep up the reputation and standards of this Section. Dr. Shambaugh has so thoroughly organized and so carefully prepared the work of this Section from year to year, that I feel he will be a very great help in directing me in my new office. We shall endeavor to make it just as interesting and valuable as possible, and try to keep the standards as high as they have been, so that this may continue to be one of the best sections, and the best gathering for the development and study of our specialty in any country in the world."

Dr. Cullen F. Welty, San Francisco, read a paper on "Improved Technic of the Thiersch Graft Following the Radical Ear Operation. Discussed by Drs. H. Frey, H. B. Graham, H. Horn, J. F. Barnhill, M. W. Fredrick, F. Stauffer, E. C. Sewall, and C. F. Welty.

Dr. H. B. Graham, San Francisco, read a paper on "The Diagnosis of Retro-Labyrinth Affections." Discussed by Drs. H. Frey, C. F. Welty and Graham.

Symposium on the "Relations Between Middle-Ear Diseases and Conditions in the Nose and Throat."

Dr. James J. Pattee, Pueblo, Colo., read a paper on "The Influence of Climate on Middle-Ear Diseases and Their Predisposing Causes."

Dr. William R. Murray, Minneapolis, read a paper on "How Far May Conditions in the Nose and Throat be Responsible for Middle-Ear Diseases?"

Dr. J. F. Barnhill, Indianapolis, read a paper on "What Improvement Can Rationally be Expected from Treatment Applied to the Nose and Throat in Cases of Middle-Ear Deafness?"

The papers of the symposium were discussed by Drs. F. P. Emerson, E. L. Jones, A. L. Kelsey, F. Stauffer, Murray and J. F. Barnhill.

Dr. F. P. Emerson, Boston: "The success of these meetings is due largely to two factors. One is the excellent executive work of the officers in getting up the program. The other is the excellent work of the local men. I know you will all join with me in a vote of thanks to the local men, for their cordial and hospitable treatment of us while here." The motion was seconded and unanimously passed by a rising vote.

Dr. J. F. Barnhill, Indianapolis: "The Executive Committee, after consultation with many of the members of the Section, wish to nominate Dr. Hugo Frey, for presentation to the House of Delegates, for election as an honorary member of the American Medical Association." (Applause.) The nomination was unanimously concurred in by the Section. [The nomination failed to come before the House, however.]

Following his nomination for honorary membership, Dr. Hugo Frey of Vienna, Austria, said: "This is such an honor as I could scarcely have expected. I have appreciated the honor and pleasure of being here. As president of the Austrian Otologic Society, I take the pleasure of bringing to the Chairman and the Executive Committee and all the members the best regards of our officers and members, and to invite you, as soon and as often as you can, to visit us and to take part in our proceedings. And I hope to give you as good a welcome as we can, but we could not extend to you better hospitality than I have enjoyed here. I thank you very much."

SECTION ON DISEASES OF CHILDREN

Tuesday, June 27—Afternoon

The meeting was called to order at 2:20 p. m. by the Chairman, Dr. S. M. Hamill, Philadelphia.

In the absence of Dr. E. E. Graham, Philadelphia, member of the Executive Committee, the Chairman appointed Dr. W. W. Butterworth to fill the vacancy.

Dr. S. M. Hamill, Philadelphia, read the Chairman's Address on "The Opportunities of the Pediatrist in the Prevention of Death and Diseases in Early Life."

Dr. Richard R. Smith, Grand Rapids, Mich., read a paper on "A Study of Children in Reference to Enteroptosis." Discussed by Drs. W. J. Butler, Chicago, and I. A. Abt, Chicago.

On motion, Dr. Frank Allin, of Chicago, was granted permission to read a paper not on the program.

Dr. Thomas S. Southworth, New York, read a paper on "The Institutional Care of Young Infants." Discussed by Drs. Gustavus Eliot, New Haven; J. W. Cokenower, Des Doines; Langley Porter, San Francisco; I. A. Abt, Chicago; W. W. Butterworth, New Orleans; T. C. McCleave, Berkeley; R. B. Tubbs, Council Bluffs; Jessie M. McGavin, Portland; W. V. C. Francis, Los Angeles, and T. S. Southworth.

Dr. Frank Allin, Chicago, read a paper on "The Baby Tents in Chicago." Discussed by Drs. J. P. Sedgwick, Minneapolis; May Michaels, Chicago, and Frank Allin.

Wednesday, June 28—Morning

Dr. I. A. Abt, Chicago, read a paper on "The Influence of Summer Heat on the Production of Gastro-Intestinal Diseases of Infants." Discussed by Drs. John W. Foss, Phoenix, Ariz.; C. L. Magee, Los Angeles; M. A. Weems, Columbia, Tex.; W. V. C. Francis, Los Angeles; Frank P. Gengenbach, Denver; Frances M. Allen, San Diego; W. W. Butterworth, New Orleans, L. T. Royster, Norfolk, Va., and I. A. Abt.

Dr. W. W. Butterworth, New Orleans, read a paper on "A Statistical Investigation Relative to the Influence of Various Methods of Infant Feeding on the Morbidity and Mortality of Infants, Occurring in New Orleans, from August 1, 1909, to July 31, 1910."

Dr. F. C. Neff, Kansas City, Mo., read a paper on "Recent Experiences in the Artificial Feeding on 100 Infants During the First Three Months of Life."

These two papers were discussed by Drs. Thomas S. Southworth, New York; J. R. McLaren, Oakland; M. Dranga, San Diego; Langley Porter, San Francisco; J. P. Sedgwick, Minneapolis; R. B. Tubbs, Council Bluffs; A. L. Tilton, Kingman, Ariz.; L. R. DeBuys, New Orleans; I. A. Abt, Chicago; L. T. Royster, Norfolk; W. V. C. Francis, Los Angeles; C. L. Magee, Los Angeles; W. W. Butterworth and F. C. Neff.

Drs. J. P. Sedwick and F. W. Schultz, Minneapolis, read a paper on "Relationship of Gastric to Pancreatic Fat Digestion in Infants." Discussed by Dr. S. M. Hamill.

Wednesday, June 28—Afternoon

Dr. Philip King Brown, San Francisco, read a paper on "The Neurotic Basis of Juvenile Delinquency, Based on Some Special Cases of the San Francisco Juvenile Court." Discussed by Drs. John A. Colliver, Los Angeles; L. T. Royster, Norfolk, Va.; F. R. Branham, San Diego, Cal.; D. S. Hanson, Ohio, and P. K. Brown.

Dr. Langley Porter, San Francisco, read a paper on "A Consideration of Obstructions at the Pylorus Occurring in Infants." Discussed by Drs. W. W. Butterworth, New Orleans, and L. Porter.

Dr. L. Porter read a paper written by Dr. E. C. Fleischner, San Francisco, on "The Relation of Meat Ingestion to Indicanuria in Childhood." Discussed by Dr. J. P. Sedgwick, Minneapolis, and Dr. Porter.

As Dr. Butterworth desired to be relieved from duty on the Executive Committee, the Chairman appointed Dr. Frank P. Gengenbach, Denver, to fill the vacancy.

The Section was invited to be present at an autopsy in a case of congenital atresia of the common bile duct.

Thursday, June 29—Morning

Dr. J. W. Cokenower, Des Moines, Ia., read a paper on "Rachitis in Its Early Stages." Discussed by Dr. Elizabeth Follansbee, Los Angeles, and Dr. Cokenower.

The Executive Committee presented the following nominations as a majority report: Chairman, Dr. I. A. Abt, Chicago; Vice-Chairman, Dr. L. T. Royster, Norfolk, Va.; Secretary, Dr. J. P. Sedgwick, Minneapolis, and Delegate, Dr. William Hollopeter, Philadelphia. Moved by Dr. Southworth, and seconded, that the Secretary be empowered to cast the ballot of the Section for these officers.

It was moved and seconded that the minority be allowed to present a report. Motion was lost.

The motion of Dr. Southworth was voted on and carried.

Dr. William J. Butler, Chicago, read a paper on "Report on Brain Cases in Children." Discussed by Dr. C. C. Rogers, Chicago, and Dr. Butler.

The Section adjourned at 10:15 to meet with the Section on Practice of Medicine in the afternoon. [For papers read, see the minutes of the latter Section given on a preceding page.]

SECTION ON PHARMACOLOGY AND THERAPEUTICS

Tuesday, June 27, Afternoon

The Chairman, Dr. Lawrence Litchfield, Pittsburg, called the meeting to order at 2:30 p. m., in Walker Hall.

Dr. Litchfield delivered his address on "Some Considerations on the Treatment of the Arithritides." No discussion.

The Chairman stated that the Secretary of the Section, Mr. M. I. Wilbert, Washington, D. C., would not be present during the meeting and he appointed Dr. A. C. Crawford, Stanford University, Cal., to act as Secretary.

Dr. Crawford then read the report of the Secretary, also an application for pharmaceutical membership by Professor J. A. Koch, of Pittsburg.

The application was approved by the Section and referred to the House of Delegates for action.

A motion was then made by Dr. A. C. Crawford, and carried, according the privileges of the floor to the delegate from the American Pharmaceutical Association, Prof. Albert Schneider, San Francisco, as well as to members of the pharmaceutical and medical professions, not members of the Section, present during the sessions.

Professor Albert Schneider, San Francisco, delivered the address of the Delegation from the American Pharmaceutical Association.

On motions, the paper of Dr. Fussell and the Report of the Committee on the United States Pharmacopeia were ordered read before the discussion on the communication from the American Pharmaceutical Association.

Dr. M. H. Fussell, Philadelphia, in the absence of the Chairman of the Committee, Dr. Reid Hunt, Washington, D. C., who was in attendance on the House of Delegates, read the Report of the Committee on the United States Pharmacopeia.

In the absence of Dr. David L. Edsall, Philadelphia, the Chairman appointed Dr. F. E. Stewart, Philadelphia, a member of the Executive Committee.

Dr. M. H. Fussell, Philadelphia, read a paper entitled, "Some of the Dangers of Certain Ethical Proprietary Preparations to both Physicians and Public."

Dr. Reid Hunt, Washington, D. C., called attention to a circular which had been sent by the Committee on Useful Remedies of the Council on Pharmacy and Chemistry to teachers of pharmacology, therapeutics, etc., in medical colleges and to members of state medical examining boards. The circular asked for aid in compiling a list of important medicaments.

Dr. F. E. Stewart, Philadelphia, made a motion that the *Chairman appoint a committee to consider the* recommendations offered in the address of Professor Schneider, to be laid before the House of Delegates *for action.* Carried. The *Chairman appointed as the committee to act on this,* Drs. M. H. Fussell, Philadelphia; Reid Hunt, Washington, D. C., and F. E. Stewart, Philadelphia.

The reports and the paper were discussed by Drs. Oliver T. Osborne, New Haven, Conn.; Theodore G. Davis, Los Angeles; F. E. Stewart, Philadelphia; Reid Hunt, Washington, D. C.; Joseph M. King, Los Angeles; Mr. Lightheart, Sacramento, Cal., and Dr. M. H. Fussell, Philadelphia.

Dr. F. E. Stewart presented resolutions on trademarks and on radio-active waters, which were approved by the Section on Pharmacology and Therapeutics and later by the House of Delegates. [See The Journal, July 8, page 137.]

Dr. A. C. Crawford, Stanford University, Cal., read a paper on "Pressor Principle of Our Eastern Mistletoe." Discussed by Dr. Reid Hunt, Washington, D. C., and Dr. Crawford.

Dr. L. G. Visscher, Los Angeles, read a paper on "The Treatment of Chronic Hypertension." Discussed by Drs. Joseph M. King, Los Angeles; L. Duncan Bulkley, New York; William B. Snow, New York, and Dr. Visscher.

Wednesday, June 28, Morning

The *Chairman appointed* Dr. R. L. Wilbur, San Francisco, Acting Secretary.

Drs. H. D. Arnold and Ralph C. Larrabee, Boston, presented a paper on "The Purin Content of Common Articles of Food."

Drs. A. C. Reed and George B. Wallace, New York, presented a paper on "Uric Acid and Purin Metabolism."

These papers were discussed by Drs. Theodore G. Davis, Los Angeles; L. Duncan Bulkley, New York; Lawrence Litchfield, Pittsburg, and H. B. Arnold.

Dr. F. E. Stewart, Philadelphia, presented the report of the Committee appointed to consider the recommendations in the Address of Delegation from American *Pharmaceutical* Association. This was approved and referred to the House of Delegates [which approved it. See The Journal, July 8].

Dr. Reid Hunt, Washington, D. C., read a paper on "Experiments on the Relation of Thyroid to Diet." Discussed by Dr. Theodore G. Davis, Los Angeles.

SYMPOSIUM ON HOOKWORM DISEASE

Dr. Reid Hunt, Washington, D. C., read the paper prepared by Dr. W. H. Schultz, Washington, *D. C., on* "Relative Efficiency, as Compared with *Thymol, of Certain Proposed* Remedies for Hookworm Disease."

Dr. E. E. Endicott, Jackson, Cal., *read a paper on* "Hookworm Infection in the Deep Gold Mines of California."

Dr. Herbert Gunn, San Francisco, read a paper on "Hookworm Disease."

These papers were discussed by Drs. T. G. Davis, Los Angeles; Herbert Gunn, San Francisco; John W. Colbert, Albuquerque, N. Mex.; H. R. Olliver, San Francisco; J. H. Rosenkrans, Hoboken, N. J.; Reid Hunt, Washington, D. C., and E. E. Endicott, Jackson, Cal.

Wednesday, June 28, Afternoon

Dr. Emile Schmoll, San Francisco, read a paper on "The *Relative Value of Physical and Functional* Signs in the Management of Failing Circulation."

Dr. A. W. Hewlett, Ann Arbor, Mich., read a paper on "The Relation of Cardiac Irregularities *to* Treatment."

Dr. W. W. Kerr, San Francisco, read a paper on "Some Factors in the Treatment of Myocardial Lesions"

Dr. R. L. Wilbur, in the absence of the author, Dr. Worth Hale, *Washington,* D. C., read a paper on "The Effect of the Digestive Secretions on the Activity of Digitalis and Allied Drugs."

Dr. R. L. Wilbur, San Francisco, read a paper on "Some Relations of the Nervous Mechanism of the Heart to Drug Effects as Indicated by Experiments *on the* Terrapin."

These papers were discussed by Drs. W. B. Snow, New York; Emile Schmoll; *Boardman* Reed, Alhambra, Cal.; A. W. Hewlett, Ann Arbor, Mich., and Ray L. Wilbur, San Francisco.

Dr. Theodore G. Davis, Los Angeles, gave a demonstration of a new method of isolating hematin and bile acids from the *urine and* of the application of Torquay's test.

Thursday, June 29—Morning

The Chairman, Dr. Lawrence Litchfield, Pittsburg, appointed Dr. F. M. Pottenger, Monrovia, Cal., *Acting* Secretary.

Dr. M. H. Fussell, Philadelphia, on behalf of the Nominating Committee nominated the following as the officers of the Section for the coming year: Chairman, Dr. Torald Sollmann, Chicago; Vice-Chairman, R. L. Wilbur, San Francisco; Secretary, Mr. M. I. Wilbert, Washington, D. C., and Delegate, Dr Reid Hunt, Washington, D. C.

On motion duly seconded and carried the Secretary was instructed to cast a ballot for the nominees, which was done and the officers declared elected.

Dr. J. O. Hirschfelder, San Francisco, read a paper on "The Use of Salvarsan."

Drs. Howard Fox and William B. Trimble, New York, presented a paper on "Further Experience with Salvarsan at the New York Skin and Cancer Hospital."

Dr. Ray W. Matson, Portland, Ore., read a paper on "The Influence of Salvarsan and Mercury on the Wassermann Reaction."

These papers were discussed by Drs. D. W. Montgomery, San Francisco; H. R. Olliver, San Francisco; M. H. Fussell, Philadelphia; L. Duncan Bulkley, New York; W. P. Murray, Caliente, Nevada; J. O. Hirschfelder, San Francisco; Howard Fox, New York, and Ray W. Matson, Portland, Ore.

Dr. Alexander Lambert, New York, read a paper on "The Use of the Different Salicylates in Rheumatism." No discussion.

Dr. Max Rothschild, San Francisco, read a paper on "The Treatment of Hemoptysis in Pulmonary Tuberculosis."

Dr. W. *Jarvis Barlow, Los Angeles, read a paper on* "Climate in the Treatment of Pulmonary Tuberculosis."

Dr. E. S. Bullock, Silver City, N. Mex., read a paper on "The *Hypodermic* Use of *Citrate* of Iron in Secondary Anemias."

These papers were discussed by Drs. George H. Evans, San Francisco: Dr. W. C. Voorsanger, San Francisco; John W. Foss, N. Mex.; C. A. Reinemund, El Paso, Tex.; Max Rothschild, and W. Jarvis Barlow.

Thursday, June 29—Afternoon

Dr. Gerald B. Webb and G. Burton Gilbert, Colorado Springs, *Colo., presented a paper on* "Specific Tissue Inoculation of Vaccines." Discussed by Drs. D. W. Montgomery, San Francisco, and G. B. Webb.

Dr. F. M. Pottenger, Monrovia, Cal., read a paper on "Difficulties Encountered in the Therapeutic Use of Tuberculin." Discussed by Drs. George H. Evans, San *Francisco;* Walter Brem, Cristobal, Canal Zone; Ritter, Chicago; Edward von Adelung, Oakland, Cal.; W. C. Voorsanger, San Francisco; Charles O. *Probst,* Columbus, O.; George A. Hare, *Fresno,* Cal.; Max Rothschild, San Francisco; J. S. Trewella, Los Angeles; J. E. Pottenger, Monrovia, Cal.; M. P. Ravenel, Madison. Wis.; R. A. Peers, Colfax, Cal.; Gerald Webb, Colorado Springs, Colo.; F. E. Stewart, Philadelphia, and F. M. Pottenger.

Dr. Charles A. Shepard, Needles, Cal., read a paper on "The Production of Immunity in Tuberculosis by Intravenous Injection of *Tuberculin." Discussed by* Drs. Max Rothschild, San Francisco; F. M. Pottenger, Monrovia, Cal.; Edward von Adelung, Oakland, Cal.; Gerald B. Webb, Colorado Springs, Colo., and C. A. Shepard.

Dr. L. Duncan Bulkley, New York, read a paper on "Report on One Hundred and Thirty Cases of Psoriasis in Private Practice on a Strictly Vegetarian Diet." Discussed by Drs. *D. W. Montgomery,* San Francisco; David Paulson, Hinsdale, Ill.; J. S. Trewella, Los Angeles; Lawrence Litchfield, *Pittsburg,* and L. D. Bulkley.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Tuesday, June 27—Afternoon

The meeting was called to order by the Chairman, Dr. Yandell Henderson, New Haven, Conn.

Drs. W. B. Cannon, Boston, and H. Gideon Wells, Chicago, were appointed a Committee on Nominations for officers for the coming year.

The Chairman stated that a number of applications for associate membership in the Association had been secured by officers of the Section. The Secretary read the names, and it was moved and carried that they be presented by the Delegate of the Section to the House of Delegates for election.

The Chairman, Dr. Yandell Henderson, read his address, entitled: "Clinical Physiology—An Opportunity and a Duty." Discussed by Drs. W. H. Cannon, Boston, and William H. Welch, Baltimore.

Drs. Cannon and Washman presented a paper on "The Nature of Hunger." No discussion.

A paper entitled: "The Relation of Specific Precipitation to the Reaction of Fixation," by Dr. Frederick R. Gay, Berkeley, Cal., was presented by Dr. G. Y. Rush, of the same place. Discussed by Dr. H. G. Wells, Chicago.

Dr. H. Gideon Wells, Chicago, read a paper on "Studies on Specificity." Discussed by Dr. Yandell Henderson, New Haven, Conn.

With the formal consent of the Section, Dr. W. T. Councilman, Boston, described a case of tuberculosis in an aneurysm. Discussed by Drs. W. H. Welch, Baltimore, and H. G. Wells, Chicago.

Dr. Jessie B. Hudson, Iowa, read a paper on "Bacteriology of the Ear." Discussed by Drs. W. H. Welch and Y. Henderson.

Wednesday, June 28—Morning

Dr. Halden Jones, Los Angeles, read a paper on "Photogenic Bacteria." Discussed by Dr. Yandell Henderson, New Haven, Conn.

Dr. Leonard W. Ely, Denver, read a paper on "Observations on the Pathology of Joint Tuberculosis, with Lantern Slide Demonstration." No discussion.

Dr. J. F. Hultgen, Chicago, read a paper on "The Splenic Anemias." No discussion.

Dr. J. G. Van Zwaluwenburg, Ann Arbor, Mich., read a paper on "Heart Block." Discussed by Drs. A. W. Hewlett, Michigan, and Yandell Henderson, Connecticut.

Dr. W. D. Gatch, Baltimore, read a paper on "The Use of Rebreathing in the Administration of Anesthetics and as a Therapeutic Measure." Discussed by Dr. Yandell Henderson, Connecticut.

Dr. Gerald B. Webb, Colorado Springs, read a paper on "Immunity in Tuberculosis. Its Production in Monkeys and Children." Discussed by Drs. E. S. Bullock, New Mexico; J. F. Hultgen, Chicago; Roy E. Thomas, Arizona; E. R. Le Count, Chicago; M. P. Ravenel, Wisconsin; L. B. Wilson, Minnesota, and G. B. Webb.

Dr. E. R. Le Count, Chicago, read a paper on "Bone Hyperplasia and Tumor of Bone." No discussion.

Wednesday, June 28—Afternoon

A paper on "The Pathogenesis of Balantidium Coli," by Dr. Fred B. Bowman, Manila, was presented by Dr. W. E. Musgrave, Manila. No discussion.

Dr. W. Ophuls, San Francisco, read a paper on "Subacute and Chronic Nephritis as Found in 1,000 Unselected Post-Mortem Examinations." Discussed by Drs. Leo Loeb, St. Louis, and W. Ophuls.

Dr. Samuel T. Darling, Ancon Hospital, read a paper on "Verruca Peruana." No discussion.

Dr. Glanville Y. Rusk, Berkley, Cal., read a paper on "Report of a Case of Diffuse Cerebral Sclerosis Occurring in Infancy." No discussion.

Drs. Howard T. Karsner and J. H. Austin, Philadelphia, presented a paper on "A Study of Experimental Bland Infarction." No discussion.

Dr. L. B. Stookey, Los Angeles, read a paper on "Some Urinary Findings in Eclampsia." Discussed by Dr. H. G. Wells, Chicago.

Dr. R. L. Thompson, St. Louis, read a paper on "The Influence of the Thyroid Gland on the Healing of Fractures." No discussion.

Dr. W. Warner Watkins, Phoenix, Ariz., read a paper on "The White Cells in Tuberculosis." Discussed by Drs. G. B. Webb, Colorado; Y. Henderson, Connecticut; J. T. Hultgen, Chicago, and F. M. Pottenger, California.

Thursday, June 29—Morning

The first order of business was the election of officers for the ensuing year. The Chairman called for the report of the Nominating Committee and the following officers were unanimously elected: Chairman, Dr. Leo Loeb, St. Louis; Vice-Chairman, Dr. William Ophuls, San Francisco; Secretary, Dr. A. W. Hewlett, Ann Arbor, Mich.; Delegate, Dr. E. R. Le Count, Chicago; Alternate, Dr. Yandell Henderson, New Haven, Conn.; Executive Committee, Drs. W. P. Rosenau, H. G. Wells and Yandell Henderson.

SECTION ON NERVOUS AND MENTAL DISEASES

Tuesday, June 27—Afternoon

The meeting was called to order by Dr. William A. Jones, of Minneapolis, Chairman.

Dr. H. G. Brainerd, of Los Angeles, invited the members of the Section to a Spanish dinner to be given at Casa Verdugo at 6:30 p. m. of this date.

In the absence of the permanent secretary, the chairman appointed Dr. Andrew William Hoisholt temporary secretary during the Section's work.

Dr. H. G. Brainerd, of Los Angeles, took the chair while the chairman read a clinical paper on "Resection of the Posterior Routes of the Spinal Cord." The paper was discussed by Drs. Harold N. Moyer, Chicago; W. W. Graves, St. Louis; Abrams, San Francisco, and E. D. Fisher, New York.

At the request of Dr. T. D. Crothers, who was obliged to leave the meeting, his paper on "Some Distinct Neuropsychoses Common to All Cases of Inebriety and Alcoholism" was read by title, which the chairman announced was in accordance with the By-Laws.

Dr. Charles Lewis Allen, Los Angeles, read a paper on "Arthritic Muscular Atrophy, Clinical and Experimental," which was not discussed.

A paper on "Resuscitation After Prolonged Artificial Respiration During Operations for Cerebellar Tumor," was read by Dr. Harvey Cushing, Baltimore. This paper was discussed by Drs. Fisher of New York and Graves of St. Louis.

Dr. Harold N. Moyer, of Chicago, made a summary of his paper entitled "A Hitherto Undescribed Symptom in Paralysis Agitans," which was discussed by Drs. J. H. McBride, Pasadena; Graves, St. Louis; Fisher, New York, and Moyer.

Dr. E. D. Fisher read a paper on "Differential Points in Tabes and General Paresis," which was discussed by Drs. Woodson, St. Joseph, Mo.; Moline, Denver; Hoisholt, Moody and Fisher.

On acount of the absence of the Executive Committee, the chair appointed Dr. Ross Moore, Los Angeles, Dr. Harold N. Moyer, Chicago, and Dr. Edward D. Fisher, New York.

Wednesday, June 28—Morning

Dr. G. Y. Rusk, Berkeley, Cal., read a paper on "Blastomycosis." Discussed by Dr. Moyer and Dr. Graves.

Dr. Henry Herbert presented a patient suffering with hyperhidrosis universalis. Dr. Herbert stated the history and symptoms, and the patient was examined. Discussed by Drs. Fisher, Oettinger and Moline, of Denver; Murphy, of Kansas City, and Herbert.

Dr. W. W. Graves, St. Louis, read a paper on "The Recognition of Syphilis," which was discussed by Drs. Burnett and Robinson, of Kansas City, and Dr. Graves.

Dr. Ross Moore, Los Angeles, read a paper on "The Recognition of the Pre-Neurasthenic and Pre-Insane Condition in the Young with Reference to Prevention," which was discussed by Drs. T. J. Orbison, Los Angeles; Robinson, Kansas City; Allen, Los Angeles; Woodson, St. Joseph, Mo.; Dorsey, Sonoma County, Cal.; Crosby, Oakland; Louise Patterson, Vineland, N. J.; Oettinger, Denver; Gundry, Baltimore, and Ross Moore.

Dr. Thomas J. Orbison, Los Angeles, read a paper on "The Training Camp Idea in the Treatment of Neurasthenia and Allied Functional Nervous Diseases." This was discussed by Drs. Woodson, Gundry, Case and Orbison.

The Chairman appointed the following as a Nominating Committee: Dr. H. G. Brainerd, Los Angeles; Dr. S. G. Burnett, Kansas City, and Dr. W. E. Dold, New York.

Wednesday, June 28—Afternoon

A paper on "The Diagnosis and Prognosis of the Unfit" was read by Dr. Louise Patterson, Vineland, N. J., which was discussed by Drs. Harold N. Moyer, Chicago; John W. Robertson, Livermore, Cal.; E. W. Moores, Boston, and A. W. Hoisholt, Stockton, Cal.

The next paper on the program was the substitute paper by Dr. Robert Perry Smith, Washington, "Multiple Neuritis, with Paralysis of the Hypoglossal Nerve."

Dr. A. W. Hoisholt, Stockton, Cal., read his paper on "Korsakow's Psychosis and the Amnestic Symptom-Complex, with a Report of Three Cases."

These two papers were discussed by Dr. David S. Booth, St. Louis, and Dr. S. Grover Burnett, Kansas City.

Dr. Daniel Crosby, Fruitvale, Cal., read the next paper on "The Problem of State Care of Drug and Alcohol Habitues."

A paper was read by Dr. George E. Pettey on "Chronic Alcoholism: What Can and What Cannot be Accomplished by Treatment."

These two papers were discussed by Drs. S. Grover Burnett, Kansas City; A. W. Hoisholt, H. G. Brainerd, Los Angeles; Ross Moore, Los Angeles; G. H. Moody, San Antonio, Tex., and Robertson, Livermore, Cal.

The report of the nominating committee was read and adopted as follows: For the next chairman, Dr. Edward D. Fisher, New York City; vice-chairman, Dr. G. H. Moody, San Antonio, Tex.; delegate, Dr. W. A. Jones, Minneapolis. The secretary holds over for three years.

Dr. Pettey then made a motion that the attention of the House of Delegates be called to the matter of passing a resolution or taking some action in regard to the labeling of alcoholic and opium drugs. The motion was seconded and carried.

After a short speech of thanks by the Chairman the section adjourned.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

TUESDAY, JUNE 27—AFTERNOON

Dr. Norman Bridge, Los Angeles, called the meeting to order, and, in the absence of Dr. W. A. Evans, Chicago, Chairman, was elected Chairman on motion of Dr. Oscar Dowling, Shreveport, La. By motion of Dr. Dowling, also, and in absence of Dr. C. Hampson Jones, Baltimore, Secretary, Miss Agnes Morris, New Orleans, was elected Secretary.

In absence of Dr. W. A. Evans, Chicago, Chairman Bridge read the former's Chairman's Address and Oration on State Medicine.

Dr. T. R. Crowder gave abstract of paper in manuscript prepared by himself, Dr. J. A. Denny and Dr. C. A. Schroyer, all of Chicago, entitled "Ventilation of Cars." Discussed by Dr. J. G. Holmes, Alamogordo, N. Mex.; Dr. Liston H. Montgomery, Chicago, and Dr. T. R. Crowder, Chicago.

Dr. F. Park Lewis, Buffalo, N. Y., delivered an address on "Prevention of Ophthalma Neonatorum." Discussed by Drs. G. T. Schwartz, Providence, R. I.; F. Park Lewis, Buffalo, N. Y., and H. M. Bracken, St. Paul. In accordance with a suggestion in the paper that a committee be appointed for the formulation of a standard law for the prevention of ophthalmia neonatorum to be recommended for adoption by the House of Delegates, and in accordance with a motion, Chairman Bridge appointed Dr. G. T. Schwartz, Providence, R. I., chairman, with request to select two other members of this Section as the committee.

Dr. H. M. Bracken, St. Paul, read a paper on "Control of Small-Pox in Rural Districts and in Cities of a Hundred Thousand Population or less." Discussed by Drs. E. Stuver, Fort Collins, Colo.; J. N. Hurty, Indianapolis, and H. M. Bracken, St. Paul, Minn.

On motion by Dr. H. M. Bracken, St. Paul, duly seconded and carried, the Chairman appointed a Nominating Committee of three to report at 9 a. m., June 29, 1911, namely, Drs. J. N. Hurty, Indianapolis; Oscar Dowling, Shreveport, La., and W. C. Gorgas.

On motion of Dr. Listón H. Montgomery, Chicago, the Section decided to refer to the House of Delegates, with favorable recommendation, a resolution providing a new clause in the Principles of Medical Ethics which was presented by Dr. H. M. Bracken, St. Paul. [The House did not act on the suggestion. *The wording proposed was printed in* THE JOURNAL, *July 8, 1911, page* 141.] Dr. M. P. Ravenel, Madison, Wis., read the report of the Committee on Standard Methods of Procedure for the Control and Prevention of Tuberculosis, by himself and Dr. John R. Moore, of the Bureau of Animal Industry in Washington. An amendment was proposed by Dr. H. M. Bracken, St. Paul, Minn., that the qualifying word "guarded" be inserted in said report before the word "indemnity," and was carried; and, thus amended, the report, on motion of Dr. Ravenel, was ordered referred, with favorable recommendation, to the *House of Delegates.*

Dr. J. N. Hurty, Indianapolis, read the report of the Committee on State Methods of Public Education in Hygiene, prepared by himelf and Dr. W. F. Snow, Sacramento, Cal., and Dr. Oscar Dowling, Shreveport, La. This report was discussed by Drs. W. F. Snow, Sacramento, Cal.; Frances M. Greene, Cambridge, Mass.; William C. Woodward, Washington, D. C.; Oscar Dowling, Shreveport, La., and George A. Hare, Fresno. Cal

WEDNESDAY, JUNE 28—MORNING

At the Chairman's request, the stenographer read a paper on "Control of Venereal Disease by a Municipality," by Dr. Guy L. Kiefer, Detroit, and Dr. George M. Kober, Washington, D. C.

Dr. George L. Eton, San Francisco, read a paper on "Prophylaxis of Venereal Disease in Large Cities."

Dr. Frances M. Gree[illegible] read a paper on "The Reportability of [illegible]."

These three papers on venereal diseases were discussed by Drs. Herbert Gunn, San Francisco; Frances M. Greene, Cambridge, Mass.; W. F. Snow, Sacramento, Cal.; E. Stuver, Fort Collins, Colo., and S. A. Knopf, New York.

The Chairman, in view of the importance of the matter appointed Drs. L. M. Powers, Los Angeles; Frances M. Greene, Cambridge, Mass., and William F. Snow, Sacramento, Cal., as a committee to consider the three papers just read and to formulate a resolution on venereal diseases and report it for presentation to the House of Delegates.

Dr. D. W. Graham, Chicago, read a paper on "Disinfectants," by Drs. W. E. Post and H. K. Nicoll, Chicago. Discussed by Drs. F. O. Tonney, Philadelphia, and D. W. Graham, Chicago. *On motion* of Dr. Graham, duly seconded, the paper was referred to the Council on Pharmacy and Chemistry, with a view to the appointment of a commission on standardization of disinfectants.

Dr. C. C. Browning, Monrovia, Cal., read a paper on "Houses for Working Men," by Drs. C. C. Browning, Monrovia; G. H. Kress, Los Angeles, and C. B. Ball, *Chicago. No discussion.*

Dr. W. C. Woodward, Washington, D. C., read a paper on "*Methods for Controlling Diphtheria,*" by Drs. C. Hampson Jones, Baltimore; M. L. Price, Baltimore, and W. C. Woodward, Washington. D. C. He then read his comments showing points wherein he differed from the majority of the committee. Discussed by Dr. L. M. Powers, Los Angeles.

The Chairman read a paper on "Pasteurization of Milk," by Drs. P. G. Heinemann and E. O. Jordan, Chicago. Discussed by Drs. L. M. Powers, Los Angeles and W. C. Woodward, Washington, D. C.

WEDNESDAY, JUNE 28—AFTERNOON

Dr. Norman Bridge, Los Angeles, read a paper on "Typhoid Fever," by Drs. *L. L. Lumsden and* W. C. Rucker, Washington, D. C., and A. W. Freeman, Richmond, Va. Discussed by Drs. Norman Bridge, Los Angeles, and Rupert Blue, San Francisco.

Dr. Rupert Blue, San Francisco, read a paper on "Methods for Control of Plague."

In connection with said paper Chairman Bridge read a report of the committee, composed of Drs. Rupert Blue, San Francisco; W. F. Snow, Sacramento, Cal., and Elmer E. Heg, Seattle, Wash.

These two papers were discussed by Drs. George E. Abbott, Pasadena, Cal.; J. W. Kerr, Washington, D. C.; Elmer E. Heg, Seattle, *and* N. K. *Foster, Oakland*, Cal.

The Chairman read the report of the committee, on the three *papers* on venereal disease. The report was referred to the House of Delegates. [The text of the report was published July 8.]

The Section voted unanimously to send, as proposed by Chairman Bridge, to Dr. W. A. Evans at Ann Arbor, Mich., the following dispatch: "The members of the Section on Preventive Medicine and Public Health of the *American Medical* Association now in session here send you their joy and congratulations on your elevation to the degree of *doctor* of public health and would felicitate also the university on its recognition of your merits and your work."

Dr. E. S. Godfrey, Phoenix, Ariz., read a paper on "Laws and Methods for Control of Tuberculosis *in a* Resort State," prepared by Drs. E. S. Godfrey, Phoenix, Ariz., and T. Y. Hull, San *Antonio,* Tex. Discussed by Drs. Henry B. Stehman, Pasadena, Cal.; Norman Bridge, Los Angeles, *and* G. H. Sumner.

Chairman Bridge read a paper on "Controlling Hydrophobia in *the* Human Subject," by Dr. A. M. Stimson, Washington, D. C. Discussed by Drs. Norman Bridge, Los Angeles, and Calvin S. White, *Oregon.*

THURSDAY, JUNE 29, MORNING

The Chairman, declaring the Executive Committee short *one* member, *appointed* Dr. Elmer E. Heg, *Seattle.*

Dr. J. N. Hurty, Indianapolis, Chairman of Committee on *Nominations,* read a report making the *following* recommendations: For Chairman, Surgeon Rupert Blue, San Francisco; *Vice-Chairman,* Dr. Rosalie Slaughter *Morton,* New York; Secretary, Dr. C. Hampson Jones, Baltimore. *On motion* of Dr.

Liston H. Montgomery. Chicago. this report was unanimously adopted.

Dr. George L. Leslie, Los Angeles. read a paper on "Physical Examination of School Children." This paper was discussed by Drs. Norman Bridge, Los Angeles. and Liston H. Montgomery. Chicago.

Dr. E. C. Beach. Los Angeles, read his and Dr. E. B. Hoag's (Pasadena, Cal.) joint paper as a constituent of that falling under the title: "Physical Examination of School Children."

On motion of Dr. George L. Leslie. seconded by Dr. E. C. Beach, both of Los Angeles. Dr. W. A. Evans. Chicago. and Dr. R. L. Wilbur. Executive Head of the Medical Department of Stanford University. were made a committee of two to confer with a committee of the National Educational Association meeting in San Francisco. commencing July 8. to formulate and make effective the proposition for educational hygiene and medical inspection of schools.

Dr. F. O. Tonney. Chicago, read a paper on "Throat Culture Methods."

Dr. Oscar Dowling. Shreveport, La.. introduced a statement which he desired sent to the House of Delegates, recommending that definite instruction be given to the public in the importance of a pure milk supply and the necessity for effective supervision to obtain the same: that the score card of the official daily instructors' association be adopted as the standard in the scoring of dairies; that the tuberculin test be required, and that legislation be urged to make effective the provisions named above. On motion, this was ordered referred to the House of Delegates.

Dr. Harley E. MacDonald. Los Angeles. delivered an address on "Blood-Pressure and Its Bearing on Public Health." Discussed by Drs. Liston H. Montgomery, Chicago, Norman Bridge and Harley E. MacDonald. both of Los Angeles.

Dr. Rosalie Slaughter Morton. New York. read a paper on "Woman's Place in the Public Health Movement." Discussed by Dr. William H. Welch. Baltimore: F. Park Lewis, Buffalo. N. Y.; Drs. Frances M. Greene, Cambridge. Mass.; Liston H. Montgomery, Chicago; Gage Day, Kingston. N. Y.; Rosalie S. Morton, and Norman Bridge. Los Angeles.

Dr. William H. Welch. Baltimore, presented a letter from Dr. Richard P. Strong, head of the Biologic Division of the U. S. Government Laboratories in Manila, in reference to Dr. Strong's work in collaboration with representatives from other governments in the matter of the investigation and control of the plague in Manchuria; Dr. Welch then presented a paper by Dr. Strong and the latter's assistant. Dr. Teague. on "Methods of Infection in Pneumococcic Plague."

The Chairman called attention of the Committee on Nominations to their omission to nominate a representative from the Section to the House of Delegates, and requested that nomination be supplied at the afternoon session.

Dr. Rosalie Slaughter Morton, New York. presented a resolution to refer her paper to the Council on Medical Education. Dr. William H. Welch, Baltimore, seconded the resolution, which was adopted.

Thursday, June 29, Afternoon

The Chairman read the following telegram from Dr. W. A. Evans, Chicago, in response to the Section's telegram addressed to him at Ann Arbor, Mich., congratulating him on reception of his degree as Doctor of Public Health. "Thanks for your courtesy. Thanks for your hard work for the Section."

At the Chairman's request, the stenographer read a paper on "Legal Principles of Police Power." by Dr. W. A. Evans. Chicago, whereupon the Chairman briefly adverted to minority reports: one from Dr. Hemenway, and another from Judge Harry Olson of Chicago, which papers he stated he had in his possession.

The Chairman gave extracts from a paper on "Purification of Sewage," by Mr. Rudolph Hering, New York.

The Chairman summarized a paper on "Ventilation of Schoolrooms," by the Chicago Commission of Ventilation: Dr. Edson, Dr. Tonney, Mr. Lewis and others.

The Chairman presented a nomination from Committee on Nominations for representative to the House of Delegates, namely, Dr. W. A. Evans, Chicago, which nomination, on motion of Dr. Liston H. Montgomery, Chicago, was accepted, and the Secretary instructed to cast the ballot of the Section for the nominee.

The Chairman called attention to the failure of the Committee on Nominations to present an Alternate Delegate: Dr. Frank B. Wynn, Indianapolis, nominated Dr. L. M. Powers, Health Officer, Los Angeles. The Chairman declared, "It is moved, then, that the Section instruct the Secretary to cast the unanimous ballot of the Section for Dr. L. M. Powers for Alternate Member of the House of Delegates."

Dr. Liston H. Montgomery, Chicago, inquired if the Committee on Nominations should not bring in a nomination for the Oration on State Medicine, and at the instance of the Chairman, nominated. Dr. Rupert Blue, Section Chairman-Elect. for said oration. which nomination was duly seconded and carried.

The Chairman then presented to the Section its future Chairman and Orator on State Medicine. "Dr. Rupert Blue, of San Francisco. but particularly of the United States of America." who made an appropriate response.

Mr. William Mulholland. Chief Engineer of the Water Bureau of Los Angeles. delivered an address on "The Water Supply of the City of Los Angeles. Present and Future." which was discussed by Dr. Norman Bridge, Los Angeles.

Dr. Frank B. Wynn. Indianapolis. read a paper on "Public Exhibits for Permanent Installation." which was discussed by Drs. A. J. Read. Battle Creek. Mich.; E. Stuver, Ft. Collins, Colo.. and S. A. Knopf. New York.

Dr. G. H. Sumner, of the Iowa State Board of Health, moved that the report of the Committee on Throat Cultures be referred to the Council on Health and Public Instruction, and that as the work is as yet incomplete. the committee be continued and authorized to conduct further investigation during the ensuing year. Carried.

Dr. Frank B. Wynn. Indianapolis. and Dr. F. E. Abbott, Los Angeles, then discussed the former's paper mentioned before in this report.

The Chairman gave an abstract of a paper on "Control of Drinking-Water." by Dr. Walter Forrest Dutton, Carnegie, Pa.

At the request of Chairman-Elect Blue. who had been called to the Chair, the stenographer read extracts from a paper on "Advisability of Government Medical Control of the Hygienic Factors of the Waters of the Great Lakes." by Dr. G. E. Fell, Buffalo, N. Y. Discussed by Dr. Liston H. Montgomery, Chicago.

Chairman Blue read extracts from a paper on "Infantile Paralysis: Methods for Its Control." by Drs. W. H. Frost, Washington, D. C.. and S. G. Dixon, Harrisburg. Pa. Discussed by Dr. G. H. Sumner.

At the request of Chairman Blue, the stenographer read extracts from a paper on "Control of Contagion Through Doctors and Nurses," by Drs. Heman Spalding, J. D. Rawlings and H. Cohen. Chicago.

On motion of Dr. L. M. Powers, Los Angeles. for adjournment. Chairman Blue declared the Section adjourned *sine die.*

THE REGISTRATION AT LOS ANGELES

List of Members who Registered at the Los Angeles Session, June, 1911

The total registration at the Los Angeles session was 2,153.

In addition to the names of members given below, a few others registered whose names are not given. These have not yet completed their membership. some having been subscribers only who sought membership without making the formal application or fulfilling the other requirements of the Constitution and By-Laws.

Below are given two summaries, one by sections and one by states.

REGISTRATION BY SECTIONS

Practice of Medicine	622
Surgery	594
Obstetrics and Gynecology	180
Ophthalmology	127
Laryngology, Otology and Rhinology	101
Diseases of Children	82
Pharmacology and Therapeutics	31
Pathology and Physiology	39
Stomatology	8
Nervous and Mental Diseases	98
Dermatology	27
Preventive Medicine and Public Health	112
Genito-Urinary Diseases	18
Hospitals (new section, just created by House of Delegates)	0
Registered without specifying any one Section	85

REGISTRATION BY STATES

Alabama	6	Indiana	63
Arizona	34	Iowa	55
Arkansas	11	Kansas	35
California	997	Kentucky	20
Colorado	48	Louisiana	21
Connecticut	8	Maine	1
District of Columbia	21	Maryland	18
Florida	3	Massachusetts	26
Georgia	4	Michigan	25
Idaho	4	Minnesota	43
Illinois	162	Mississippi	5

Missouri	4	South Dakota	9
Montana	10	Tennessee	12
Nebraska	30	Texas	48
Nevada	12	Utah	24
New Hampshire	3	Vermont	2
New Jersey	19	Virginia	7
New Mexico	14	Washington	22
New York	74	West Virginia	10
North Carolina	4	Wisconsin	31
North Dakota	4	Wyoming	1
Ohio	60	Hawaiian Islands	1
Oklahoma	11	Canal Zone	1
Oregon	22	Porto Rico	1
Pennsylvania	67	Manila	1
Rhode Island	4	Mexico	1
South Carolina	3		

Surgery

Abbott, Frank F., National City, Cal.
Abbott, Geo. K., Loma Linda, Cal.
Adams, J. C., Superior, Wis.
Adams, Lemuel P., Oakland, Cal.
Adler, Sr., Lewis H., Philadelphia.
Ainsworth, F. K., *San Francisco.*
Alden, Eliot, Los Angeles.
Alderson, M. E., Russellville, Ky.
Alderson, S. P., Russellville, Ky.
Allaben, John E., Rockford, Ill.
Allen, Alfred G., Deadwood, S. Dak.
Andrews, E. Wyllys, Chicago.
Allen, S. H., Salt Lake City, Utah.
Anderson, Chas. W., Los Angeles.
Anderson, J. Howard, Marytown, W. Va.
Andrews, Howard, Hollywood, Cal.
Anton, Francis L., Los Angeles.
Appel, Theodore B., Lancaster, Pa.
Bacon, D. N., Ontario, Cal.
Bacon, John E., Miami, Ariz.
Baird, Alvin W., Portland, Ore.
Baldwin, Sam'l C., Salt Lake City, Utah.
Ball, C. D., Santa Ana, Cal.
Ball, W. A., Wanette, Okla.
Ballard, W. R., Bay City, Mich.
Barbat, J. Henry, San Francisco.
Barkley, A. H., Lexington, Ky.
Barnett, Chas. E., Ft. Wayne, Ind.
Barr, H. A., Beaumont, Tex.
Bartlett, Willard, St. Louis.
Bartero, H. P., Los Angeles.
Batchelor, Wm. A., Milwaukee, Wis.
Beckett, W. W., Los Angeles.
Becton, Joe, Greenville, Tex.
Beebe, J. L., Anaheim, Cal.
Beede, S. C., David City, Neb.
Bell, H. D., Oakland, Cal.
Berry, Andrew J., Los Angeles.
Bevan, Arthur Dean, Chicago.
Biggs, M. D., Bowling Green, Mo.
Blanchar, W. O., Grand Rapids, Wis.
Bottomley, John T., Boston
Boulter, J. H., Detroit.
Bowen, A. B., Maquoketa, Iowa.
Bowers, Chas. E., Wichita, Kan.
Bowles, Frank H., Oakland, Cal.
Bowman, L. D., Jamestown, N. Y.
Boyes, Joseph H., Hebron, Neb.
Bradley, W. J., Cedar Rapids, Ia.
Branch, J. S., Elizabeth, La.
Brewer, George E., New York.
Bruin, M. R., Strasburg, Va.
Bristow, A. T., Brooklyn.
Broughton, G. A., Los Angeles.
Brown, David C., Danbury, Conn.
Brown, Harry L., Washington, D. C.
Brown, Ira E., Kelvin, Ariz.
Brown, N. J., Tehachapi, Cal.
Brown, Rexwald, Santa Barbara, Cal.
Brown, W. L., El Paso, Tex.
Bryant, Ernest O., Los Angeles.
Buchanan, R. E., Independence, Iowa.
Buck, S. C., Grinnell, Iowa.
Burke, Alex. W., Bos Obispo, C. Z.
Burks, Floyd L. R., Fresno, Cal.
Burke, W. B., Redlands, Cal.
Burlew, J. M., Santa Ana, Cal.
Burlingame, D. E., Elgin, Ill.
Butean, S. H., Oakland, Cal.
Byington, F. S., Los Angeles.
Byrne, John I., St. Joseph, Mo.
Cabot, Hugh, Boston.
Cahill, L. L., Springer, N. Mex.
Caldwell, J. A., Salisbury, N. C.
Campbell, G. E., Pasadena, Cal.
Cantrell, C. H., Greenville, Tex.
Carpenter, Estella, Yerington, Nev.
Carpenter, H. L., Goldroad, Ariz.
Carrington, P. M., Port Townsend, Wash.
Carter, Martin G., San Leandro, Cal.
Carter, W. E., Los Angeles.
Cather, E. J., Loring, La.
Caven, C. L., San Diego, Cal.
Caylor, Chas. E., Penville, Ind.
Chaffin, R. C., Los Angeles.
Champion, J. A., Colton, Cal.
Christenson, C. R., Starbuck, Minn.
Christie, R. J., Quincy, Ill.
Clapper, Wm. L., St. Louis.
Clark, Vernon G., San Diego, Cal
Clark, W. A., San Leandro. Cal.
Clemons, E. Jay, Aberdeen, S. Dak.
Coblentz, L. B., Santa Maria, Cal.
Cochran, Guy, Los Angeles, Cal.
Coffey, R. C., Portland, Ore.
Coffey, Walter B., San Francisco.
Colbert, John W., Albuquerque, N. Mex.
Coleman, J. E., Canton, Ill.
Collins, Clifford U., Peoria, Ill.
Collins, F. K., Philadelphia.
Colloran, J. Edgar, Los Angeles.
Compton, Geo. W., San Diego, Cal.
Conner, Milton C., Middletown, N. Y.
Connolly, T. W., San Francisco.
Conwell, Wm., Neligh, Neb.
Cook, E. J., Los Angeles.
Cook, George J., Indianapolis.
Cook, L. H., Bluffton, Ind.
Cooke, A. B., Nashville, Tenn.
Cooney, H. C., Princeton, Minn.
Cooper, O. O., Hinton, W. Va.
Corwin, R. W., Pueblo, Colo.
Cottrell, E. L., Scotia, Cal.
Craig, Alex. R., Chicago.
Craig, R. W., Phoenix, Ariz.
Craig, William H., Upland, Cal.
Crile, George W., Cleveland.
Criley, C. Holmes, Los Angeles.
Critchlow, Jno. F., Salt Lake City.
Crowder, Thomas R., Chicago.
Crowley, D. D., Oakland, Cal.
Culvertson, N. W., Massillon, O.
Cunningham, John G., Spokane, Wash.
Cushing, Harvey, Baltimore.
Dameron, J. D., Stockton, Cal.
Darrah, Rufus E., Newport, R. I.
Daugherty, Charles A., South Bend, Ind.
Davis, B. B., Omaha, Neb.
Davis, Carl B., Chicago.
Davis, George William, Lincoln, Cal.
Dawley, Charles G., Los Angeles.
Day, Floyd M., Eugene, Ore.
De Garmo, W. B., New York.
Dillon, Edward T., Los Angeles.
Doane, Bert L., Nel Norte, Colo.
Dorr, E. E., Des Moines, Iowa.
Doty, George E., New York.
Duncan, James A., *Toledo. Ohio.*
Duncan, Rex D., Los Angeles.
Dundas, Robert C., Los Angeles.
Duringer, W. A., Fort Worth, Tex.
Eberhard, E. L., So. Whitley, Ind.
Ehrmann, Fred J. E., Chicago.
Eichler, Alfred, San Francisco.
Ellis, E. F., Fayetteville, Ark.
Ely, Leonard W., Denver.
Enos, M. M., Oakland, Cal.
Evans, C. W., Modesto, Cal.
Fairchild, David S., Clinton, Ia.
Fairchild, Fred R., Woodland, Cal.
Faris, C. M., Sacramento, Cal.
Fortling, Jno. R., Marine Ill.
Ferbert, John C., Los Angeles.
Ferguson, Robert Henry, East Orange, N. J.
Ferry, F. C., Los Angeles.
Fielding, George A., Sawtelle, Cal.
Finley, Theodore G., Los Angeles.
Fiske, Harold A., Pasadena, Cal.
Fitzgerald, W. W., Stockton, Cal.
Fitzgibbon, Henry M., Omaha, Neb.
Flaherty, Frederick, Syracuse, N. Y.
Floyd, J. C. M., Steubenville, O.
Foster, John, New Castle, Pa.
Frazier, C. H., Philadelphia.
Freeman, J. W., Lead, S. Dak.
Freeman, W. F., Los Angeles.
French, J. Rollin, Los Angeles.
Fuller, Hulbert, Los Angeles.
Fuller, William, Chicago.
Funkhouser, Robert M., St. Louis.
Gammon, C. P., Tacoma, Wash.
Garcelon, Frank, Pomona, Cal.
Garrett, Edward H., Los Angeles.
Gatch, Willis D., Baltimore.
Gates, Howard B., Los Angeles.
Gibbon, L. L., Lowry, Minn.
Giesen, Charles G., Superior, Wis.
Gillespie, T. W., Peoria, Ill.
Grimstead, W. F., Cairo, Ill.
Goldman, Max, Kansas City, Mo.
Gordon, Howard S., Santa Ana, Cal.
Graber, C. Lee, Cleveland.
Graham, David W., Chicago.
Graham, F., Lisbon, Ohio.
Grant, William W., Denver.
Graves, John H., San Francisco.
Gray, Isabel S., St. Louis.
Gray, Samuel Thomas, Albia, Ia.
Green, G. W., Chicago.
Grove, Jno. L., Newton, Kan.
Guiteras, Ramon, New York.
Gundry, F. J., Bakersfield, Cal.
Guthrie, George W., Wilkes-Barre, Pa.
Haase, Charles, Elmira, N. Y.
Hahn, B., Seattle, Wash.
Haines, W. D., Cincinnati.
Haire, Robert D., Clinton, Mo.
Hall, A. L., Fulton, N. Y.
Hall, Giles S., Los Angeles.
Hamilton, Jo, Oakland, Cal.
Hamlin, Oliver D., Oakland, Cal.
Hand, William C., Hartley, Iowa.
Haning, H. C., Dayton, Ohio.
Harbert, Ellis, Stockton, Cal.
Harding, George F., Salt Lake City.
Harris, Charles H., Ft. Worth, Texas.
Harris, Junius B., Sacramento, Cal.
Harris, M. L., Chicago.
Harry, Charles Rees, Stockton, Cal.
Hartford, P. C., East Palestine, Ohio.
Hartman, Frank T., Waterloo, Ia.
Hartwell, John B., Boston.
Hawley, Donly C., Burlington, Vt.
Hearne, J. C., San Diego, Cal.
Helms, John S., Tampa, Fla.
Henderson, E. E., Chicago.
Hendricks, Harry H., Dallas, Tex.
Henry, Edwin C., Omaha, Neb.
Herrington, Howard, San Francisco.
Hess, H. A., San Francisco.
Hessert, William, Chicago.
Higgs, A. A., Boise, Idaho.
Hill, Corwin T., Akron, Ohio.
Hirschman, Louis J., Detroit.
Hitchcock, William W., Los Angeles.
Holcomb, Arthur L., Compton, Cal.
Holmes, Raynor E., Canon City, Colo.
Holmquist, W. S., Ely, Nev.
Hood, J. J., Cicero, Ill.
Horton, Warren N., Los Angeles.
Hosmer, S. J., Salt Lake City.
Howard, Henry W, Los Angeles.
Howard, Joseph Louis, San Francisco.
Howe, William, Shingle House, Pa.
Huggins, W. L., Los Angeles.
Hunkin, S. T., San Francisco.
Hunt, F. N., Blue Earth, Minn.
Huntington, T. W., San Francisco.
Hupp, Frank LeMoyne, Wheeling, W. Va.
Hutchinson, Clarence, Pensacola, Fla.
Ickes, Edgar M., Fremont, Ohio.
Jacobs, Harry A., Indianapolis.
Jacobs, S. Nicholas, San Francisco.
Jelks, Jno. L., Memphis, Tenn.
Jennings, George D., Corina, Cal.
Jesse, J. W., Santa Rosa, Cal.
Jolly, W. J., Oklahoma, Okla.
Jonas, A. F., Omaha, Neb.
Johnson, Carl, Montrose, Colo.
Johnson, Levi D., Whittier, Cal.
Johnson, T. B., Frederick, Md.
Johnston, Herbert A., Anaheim, Cal.
Jones, W. Harriman, Long Beach, Cal.
Judd, E. S., Rochester, Minn.
Kaull, L. P., Los Angeles.
Keidel, Albert, Baltimore.
Kelleher, Thomas F., Des Moines, Iowa.
Kelly, Elmer E., Pomona, Cal.
Kendall, Oscar J., San Diego, Cal.
Kennedy, R. D., Globe, Ariz.
Kenney, Jno. W., San Antonio, Texas.
Kenyon, C. G., San Francisco.
Kenyon, Frank P., Pomona, Cal.
Kerr, Archibald A., Salt Lake City.
Ketcherside, J. A., Yuma, Ariz.
Key, J. Walter, Taft, Cal.
Keckland, W. A., Fort Collins, Colo.
Kidder, Frank W. K., Los Angeles.
Kinnew, Lyell C., Los Angeles.
Kirby, Leonidas, Harrison, Ark.
Kirkpatrick, John L., Los Angeles.
Kistler, H. D., Butte, Mont.
Klein, W. C., Los Angeles.
Kleimboehl, Julius Walter, Random Lake, Wis.
Knapp, Harry B., Ensenada, P. R.
Knorp, Francis F., San Francisco.
Knott, Van Buren, Sioux City, Ia.
Kugeler, Henry B. A., San Francisco.
Ladd, Fred. H., St. Joseph, Mo.
Larimore, Frank Carter, Mt. Vernon, Ohio.
Larzalere, J. V., Escondido, Cal.
Lauzer, Edward S., Rock Springs, Wyo.
Le Conte, Robert G., Philadelphia.
Legge, Robert T., McCloud, Cal.
Lenz, J. Alvin, Chicago.
Levison, Charles G., San Francisco.
Lewis, Dean D., Chicago.
Lewis, William M., Los Angeles.
Libby, George W., Spokane, Wash.
Littig, Lawrence W., Davenport, Iowa.
Livingston, W. R., Oxnard, Cal.
Lockwood, Charles D., Pasadena, Cal.
Lobingier, Andrew Stewart, Los Angeles.
Lohse, John Louis, Oakland, Cal.
Long, Alfred Dow, San Diego, Cal.
Long, Francis A., Madison, Neb.
Loomis, Mellville, L., Los Angeles.
Loper, Asbury N., Dinuba, Cal.
Lord, John Prentiss, Omaha, Neb
Loughridge, J., Lincoln, Kan.
Lower, William E., Cleveland.
Lowman, J. B., Johnstown, Pa.
Lund, Fred B., Boston.
Lynn, Bascom, San Angelo, Tex.
MacCoy, William E., Pasadena, Cal.
MacDonald, Joseph, Jr., East Orange, N. J.
MacGowan, Granville, Los Angeles.
Mackenzie, Kenneth A. J., Port*land, Oregon.*
Mackenzie, Wilbur W., Spokane, Wash.
MacLafferty, B. N., Aberdeen, Wash.
MacLaren, Archibald, St. Paul.
Maclay, A. I., Delavan, Ill.
Maginn, E. F., Butte, Mont.
Mahoney, Stephen A., Holyoke, Mass.
Manson, P., Fresno, Cal.
Markley, P. L., Rockford, *Ill.*
Markolf, Harry *Foster,* Pasadena, Cal.
Martelle, Henry A., Hartford, Conn.
Martin, Edward, Philadelphia.
Martin, H. R., Riverside, Cal.
Martin, Joseph D., New Orleans.
Mason, Franklin, M. D., Rossville, Ill.
Mathews, Joseph M., Louisville, Ky.
Mattison, Eugene G., Pasadena, Cal.
Mattison, Fitch C. E., Pasadena, Cal.
Mattison, S. J., Pasadena, Cal.
Maury, J. W. Draper, Rochester, Minn.
Maxmeller, Harry G., Los Angeles.
Mayo, C. H., Rochester, Minn.
McAdory, Robert J., Los Angeles.
McArthur, Lewis L., Chicago.
McArthur, W. *T.*, Los Angeles.
McCall, H. B., Kansas City, Mo.
McCarty, Isaac A., Los Angeles.
McChord, R. C., Lebanon, Ky.
McClellan, Ben R., Xenia, Ohio.
McCoy, Alva D. S., Pasadena, Cal.

McCullough, G. T., Missoula, Mont.
McDonald, William R., New Augusta, Ind.
McHugh, Thomas, Rialto, Cal.
McKinnie, L. H., Colorado Springs, Colo.
McKnight, Everett J., Hartford, Conn.
McLaren, Jay L., Oakland, Cal.
McNab, Thomas R., Los Angeles.
McNaught, F. H., Denver.
McRae, Floyd W., Atlanta, Ga.
McReynolds, Robert P., Los Angeles.
McVety, Albert F., Toledo, Ohio.
Meacher, Byron C., Portage, Wis.
Mendenhall, T. E., Beaverdale, Pa.
Middleton, George W., Salt Lake City.
Miller, Austin, Porterville, Cal.
Miller, S. M., Peoria, Ill.
Miller, S. R., Knoxville, Tenn.
Milton, Joseph L., Oakland, Cal.
Mintener, John W., Minneapolis.
Misenheimer, C. A., Charlotte, N. C.
Mitchell, A. R., Lincoln, Neb.
Mitchell, James F., Washington, D. C.
Mitchell, P. S., Iola, Kan.
Moe, Anton J., Heron Lake, Minn.
Moore, Edward C., Los Angeles.
Moore, James E., Minneapolis.
Morris, Robert T., New York.
Morrison, N. H., Los Angeles.
Morss, Clarence R., Coleraine, Minn.
Morton, A. W., San Francisco.
Morton, Lewis B., Los Angeles.
Murphy, Fred T., Boston.
Murphy, J. D., Chicago.
Murray, Dwight H., Syracuse, N. Y.
Murray, Olga, Los Angeles.
Murray, T. J., Butte, Mont.
Myers, Mark C., Sacramento, Cal.
Myers, Thomas Chalmers, Los Angeles.
Naffziger, Howard C., San Francisco.
Nathanson, Joseph L., Chadwick, Ill.
Neff, James M., Spokane, Wash.
Nelson, Thomas J., Los Angeles.
Newcomb, Arthur T., Pasadena, Cal.
Newcomb, Ralph H., Pasadena, Cal.
Nichols, Charles B., Los Angeles.
Nicholson, C. M., St. Louis.
Norwood, E. E., Kingston, N. Y.
N[illegible] George D., Williamsport, Pa.
Oates, T. K., Martinsburg, W. Va.
Oatman, Homer C., San Diego, Cal.
Ochsner, A. J., Chicago.
O'Neal, Robert McWilliam, San Francisco.
O'Neill, Bernard J., Jr., San Diego, Cal.
O'Reilly, Archer, St. Louis.
Osgood, C. F., Ogden, Utah.
Owens, Frederick Francis, Cherry Creek, Nev.
Pahl, P. C. H., Los Angeles.
Parker, A. S., Needles, Cal.
Parker, P. J., San Diego, Cal.
Parrish, J. C., Vandalia, Mo.
Patton, W. T., New Orleans.
Pearse, Herman E., Kansas City, Mo.
Peironnet, F. M., Wilmington, Cal.
Pelton, A. L., Elgin, Ill.
Pennington, J. R., Chicago.
Percy, J. F., Galesburg, Ill.
Perkins, J. M., Denver.
Petersen, J. R., Willmar, Minn.
Peterson, Anders, Los Angeles.
Phelan, Claude C., Ferndale, Cal.
Phelan, J. R., Oklahoma, Okla.
Phillips, Percy T., Santa Cruz, Cal.
Pickard, J. E., Reno, Nev.
Pickels, W. H., El Paso, Texas.
Pidcock, J. W., Ogden, Utah.
Pierce, C. W., Los Angeles.
Plummer, Charles G., Salt Lake City.
Porter, Elmer R., Omaha, Neb.
Powell, Alvin, Oakland, Cal.
Powell, David, Marysville, Cal.
Powers, Charles A., Denver.
Powers, J. C., Hampton, Iowa.
Priestley, S. Floyd, Stockton, Cal.
Preston, James L., Los Angeles
Quain, E. P., Bismarck, N. Dak.
Raley, Franklin H., Salt Lake City.
Rand, D. H., Portland, Ore.
Rand, Howard F., St. Helena Sanitarium, Cal.
Reardon, F. D., Bowling Green, Ky.
Reber, W. W., Lehighton, Pa.
Reed, Horace, Oklahoma City.
Rees, R. B., Bakersfield, Cal.
Reynolds, Harry B., Palo Alto, Cal.
Reynolds, W. G., Kansas City, Mo.
Rich, Ezra C., Ogden, Utah.
Richardson, W. W., Los Angeles.
Rickey, A. W., Port Costa, Cal.
Rietz, Paul C., Evansville, Ind.
Rinkenberger, F. W., Tacoma, Wash.
Roberts, Harold H., Maywood, Ill
Roberts, John B., Philadelphia.
Robertson, H. M., Santa Ana, Cal.
Robison, M. A., Reno, Nev.
Rogers, Cassius C., Chicago.
Rogers, John, New York.
Root, R. R., Corona, Cal.
Rose, Francis M., Faribault, Minn.
Rosenberger, H. I., Whittier, Cal.
Rosenkrans, James H., Hoboken, N. J.
Ross, George G., Philadelphia
Ross, R. O., Fresno, Cal.
Rothganger, George, San Francisco.
Royster, Hubert A., Raleigh, N. C.
Russ, Witten Booth, San Antonio, Texas.
Ryan, Walter, Springfield, Ill.
Sadler, William S., Chicago.
St. Clair, Raymond, Reno, Nev.
Sample, C. H., Saginaw, Mich.
Sarles, Wilbur T., Sparta, Wis.
Savage, Philip Monroe, Chino, Cal.
Sayre, L., Osage, Iowa.
Sawyer, Alfred D., Fort Fairfield, Maine.
Schmauss, L. F., Alexandria, Ind.
Scott, A. C., Temple, Texas.
Scott, W. S., Chillicothe, Ohio.
Seeher, C. W., Los Angeles.
Seifert, George W., San Jose, Cal.
Sellery, A. C., Long Beach, Cal.
Sewall, Charles Albert, Los Angeles.
Seymour, James H., Los Angeles.
Shannon, J. M., Oakland, Cal.
Shattuck, Hobart P., Tucson, Ariz.
Shaw, Lawrence M., Osceola, Neb.
Sheflield, Homer H., Caliente, (U. C. Co.), Nev.
Shell, W. T., Corsicana, Texas.
Shere, Oscar M., Denver.
Sherk, Howard, Pasadena, Cal.
Sherman, Harry M., San Francisco.
Sherrard, E. E., Los Angeles.
Shine, Francis E., Bisbee, Ariz.
Shong, D. C., San Bernardino, Cal.
Shurtleff, Fred C., Los Angeles.
Siggins, J. B., Oil City, Pa.
Skinner, Charles N., Port Jervis, N. Y.
Skinner, W. W., Geneva, N. Y.
Sleicher, J. M., Chehalis, Wash.
Smith, A. J., Leavenworth, Kan.
Smith, Ethan H., San Francisco.
Smith, E. O., Cincinnati.
Smith, Franklin Buchanan, Frederick, Md.
Smith, Rea, Los Angeles.
Smith, Thomas Hardy, Pomona, Cal.
Snyder, George S., San Francisco.
Sommer, George N. J., Trenton, N. J.
Soule, C. E., Beardstown, Ill.
Southworth, Henry E., Los Angeles.
Southworth, Harry T., Prescott, Ariz.
Spalding, Alfred E., Lucerne, Minn.
Speer, Grant Gould, Los Angeles.
Speer, N. C., Osawatomie, Kan.
Spencer, Floyd H., St. Joseph, Mo.
Sprague, H. B., Salt Lake City.
Stadfield, C. G., Los Angeles.
Stanton, E. MacD., Schenectady, N. Y.
Steddom, Francis W., Los Angeles.
Steine, David W., Lima, Ohio.
Steinwand, O. W., Selma, Cal.
Stevens, B. F., El Paso, Texas.
Stevens, George M., Los Angeles.
Stinchfield, Herbert C., Los Angeles.
Still, J. J., Los Angeles.
Stillman, Stanley, San Francisco.
Stoddard, T. A., Santa Barbara, Cal.
Stover, W. M., San Luis Obispo, Cal.
Stratton, Robert T., Oakland, Cal.
Stout, D. P., Vicksburg, Miss.
Stremmel, S. C., Macomb, Ill.
Swartz, Thomas Benton, Chicago.
Swedenburg, Francis G., Ashland, Oregon.
Swenson, Carl G., Chicago.
Swift, Edward, Los Angeles.
Swindt, Joseph K., Pomona, Cal.
Swope, Samuel D., Deming, N. Mex.
Sullivan, John Francis, San Francisco.
Sutton, H. T., Zanesville, Ohio.
Tait, T. Dudley, San Francisco.
Taylor, A. Miles, San Francisco.
Taylor, Fred W., Provo, Utah.
Taylor, Raymond G., Los Angeles.
Terry, Wallace Irving, San Francisco
Thomas, Charles P., Los Angeles.
Thompson, Claude A., Muskogee, Okla.
Thompson, Elmer H., Burbank, Cal.
Thompson, Frederick Henry, Fitchburg, Mass.
Thompson, W Otis, Dodge City, Kan.
Thornburgh, Major Robert M., Medical Corps U. S. Army.
Thorpe, A. C., Los Angeles.
Tinker, Martin B., Ithaca, N. Y.
Tipton, William R., East Las Vegas, N. Mex.
Townsend, Wisner R., New York.
Townsend, V. Roy, Long Beach, Cal.
Trewhella, James S., Rivera, Cal.
Trueheart, M., Sterling, Kan.
Tuckerman, J. E., Cleveland.
Tyroler, A., Los Angeles.
Vance, A. J., Harrison, Ark.
Vander Veer, Edgar A., Albany, N. Y.
van Kaathoven, J. J. A., Los Angeles.
Van Vranken, Gilbert, Passaic, N. J.
Van Werden, W., Des Moines, Ia.
Varner, G. W., Evansville, Ind
Vaughan, Roger T., Chicago.
Voorhees, H. M., Los Angeles.
Wagner, Charles Brentano, Chicago.
Walker, Alonzo B., Canton, Ohio.
Walker, Wade H., Wichita Falls, Texas.
Walthall, T. J., San Antonio, Texas.
Warmer, C. A., Ontario, Cal.
Watson, Samuel H., Blairstown, Iowa.
Watts, Stephen H., Charlottesville, Va.
Wayland, Charles Aprenia, San Jose, Cal.
Welsh, H. G., Hutchinson, Kan.
Werner, Richard F., Eau Claire, Wis.
White, H. O., Chicago.
Whiteside, John R., Kingman, Ariz.
Whitman, C. H., Los Angeles.
Wiggins, J. L., East St. Louis, Ill.
Wilde, Kate, Los Angeles.
Wiley, Edwin H., Aermosillo, Sonora, Mexico.
Wilholt, J. C., Manhattan, Kan.
Williams, Clara, Berkeley, Cal.
Williams, Edith Hammond, San Francisco.
Williams, Fred H., Selma, Cal.
Williams, T. J., Hiteman, Iowa
Williams, T. M., Palo Alto, Cal.
Wills, William Le Moyne, Los Angeles.
Wilson, A. P., Los Angeles.
Winslow, Randolph, Baltimore.
Wiser, F. C., Denver.
Wishard, William N., Indianapolis.
Witherbee, O. O., Los Angeles
Wood, John H., Hubbard, Texas.
Wood, J. W., Long Beach, Cal.
Wood, W. C., Decatur, Ill.
Woods, E. F., Janesville, Wis.
Woodward, W. M., McKeesport, Pa.
Worthington, George B., San Diego, Cal.
Wright, A. L., Carroll, Iowa.
Wright, C. A., Los Angeles, Cal.
Yacoubi, H. B., Pasadena, Cal.
Yerxa, Charles W., Los Angeles.
Yocom, James R., Tacoma, Wash.
Yocum, M. G., Mentone, Ind.
Zerfing, Charles E., Los Angeles.
Zimmermann, A. F., Los Angeles.
Zobel, Alfred J., San Francisco.
Zwaluwenburg, C. Van, Riverside, Cal.

Obstetrics and Diseases of Women

Abbott, Geo. E., Pasadena, Cal.
Alexander, A. F., Paterson, N. J.
Amason, L. P., Wichita Falls, Texas.
Anderson, Winslow, San Francisco.
Andrews, Frank T., Chicago.
Apjohn, Henri, Yuma, Ariz.
Arthur, Mattie L., Omaha, Neb.
Bacon, Charles E., Los Angeles.
Baer, J. S., Camden, N. J.
Barnhart, William, Los Angeles.
Barnes, Samuel S. P., Massillon, Ohio.
Barney, N. Eugenia, Sterling, Col.
Benjamin, Arthur E., Minneapolis.
Bland, P. Brooks, Philadelphia.
Bowers, L. G., Dayton, Ohio.
Braasch, W. F., Rochester, Minn.
Braunwarth, Emma L., Muscatine, Iowa.
Branso, Laura H., Iowa City, Iowa.
Bresee, Paul, Los Angeles.
Brickell, J. B., Americus, Kan.
Brimhall, Silas J., Los Angeles.
Broadrup, George L., Cumberland, Md.
Brown, J. Colville, Los Angeles.
Bryson, Charles W., Los Angeles.
Bullard, Rose T., Los Angeles,
Burns, T. Mitchell, Denver.
Butz, R. E., York, Pa.
Cahe, E. M., Los Angeles.
Campbell, Harry M., Parkersburg, W. Va.
Carpenter, Frank B., San Francisco.
Cartwright, Margaret Green, Albuquerque, N. Mex.
Clark, J. A., Chicago.
Clark, S. M. D., New Orleans.
Clarke, William T., Los Angeles.
Clarksen, W. H., Manhattan, Kan.
Clegg, Joseph T., Siloam Springs, Ark.
Coates, Benjamin O., Pasadena, Cal.
Coffey, Titian, Los Angeles.
Cosgrave, Millicent, San Francisco.
Cowles, J. E., Los Angeles.
Creamer, Michael S., Los Angeles.
Crise, David, *Escondido*, Cal.
Cunningham, Martha E., Garnett, Kan.
Darling, Charles B., Boston.
Denison, John M., Crooksville, O.
Dennis, Mary E., Los Angeles.
Dorsett, Walter B., St. Louis.
Downs, Alfred J., Los Angeles.
Doyle, O. B., Fresno, Cal.
Dugdale, R. B., South Bend, Ind.
Dunsmoor, John M., Los Angeles.
Dunsmoor, Nannie C., Los Angeles.
Durrie, Anna B., La Fayette, Ind.
Dwire, Francis Belmont, Gardena, Cal.
Edelman, D. W., Los Angeles.
Edwards, Thomas C., Salinas, Cal.
Ellis, William Clyde, Phoenix, Ariz.
Ewer, Edward N., Oakland, Cal.
Fairchild, F D., Los Angeles.
Feeley, Matilda A., San Francisco.
Findley, Palmer, Omaha, Neb.
French, Charles E., San Francisco.
Fuller, D. E., Hastings, Mich.
Gatchell, Ella Frances, Chico, Cal.
Gates, L. M., Scranton, Pa.
Gibb, W. Travis, New York.
Gibbons, Henry Walter, San Francisco.

Gibbs, Roy S., San Bernardino, Cal.
Goldspohn, Albert, Chicago.
Greer, Bertha Allen, Lamont, Ia.
Guinn, J. H., Arkansas City, Kan.
Gutline, Alice B., Denver
Guthrie, James R, Dubuqque, Ia.
Hablutzel, C. E., San Jose, Cal.
Haley, James Farrar, Midland, Texas.
Hornibrook, E., Cherokee, Iowa.
Harter, Isaac F., Stronghurst, Ill.
Harvey, C. W., Anaheim, Cal.
Hayes, Nellie S., Los Angeles.
Heisz, Emily J., Chicago.
Hertzler, Arthur E., Kansas City, Mo.
Herzog, George K., San Francisco.
Hobbs, Alice L., Indianapolis.
Hoffmann, Charles von, San Francisco.
Holleran, James F., Los Angeles.
Hollister, J. C., South Pasadena, Cal.
Hoyt, D. C., Chicago.
Hromadka, A. B., Sawtelle, Cal.
Ide, Charles Edward, Redlands, Cal.
Ingraham, Clarence B., Denver.
Irwin, John R., Charlotte, N. C.
Jacobson, Julius H., Toledo, Ohio.
Jewell, Robert T., Los Angeles.
Johnson, H. L. E., Washington, D. C.
Johnson, Walter Sydney, Los Angeles.
Johnston, J. Ambrose, Cincinnati.
Kjaerbge, C. P, Fresno, Cal
Kurtz, Carl, Los Angeles.
Lamb, J. L., Los Angeles.
Larrabee, F. W., Alton, Ill.
Lazard, Edmond M., Los Angeles.
Lieth, H. O. von der, San Francisco.
Lewis, W. E., Seaside, Ore.
Lewis, Will J., Santa Ynez, Cal.
Lindley, Walter, Los Angeles.
Lockwood, E. H., Bayard, Iowa.
Loomis, E. E., Janesville, Wis.
Lorney, Robert N., Prescott, Ariz.
MacEvitt, John Cowell, Brooklyn.
Magee, Chester Lea, Los Angeles.
March, E. J., Canton, Ohio.
Marshall, Clara, Philadelphia.
Martin, Franklin H., Chicago.
Mayne, William Hawthorne, Los Angeles.
McNeile, Lyle G., Los Angeles.
Melvin, J. Tracy, Porterville, Cal.
Miller, C. Jeff., New Orleans.
Miller, S. M., Knoxville, Tenn.
Miller, William E., Columbus, Ill.
Montgomery, E. E., Philadelphia.
Moore, M. L., Los Angeles.
Moore, James S., Portland, Ore.
Morris, Margaret M., Los Angeles.
Morrison, N. D., San Mateo, Cal.
Mortensen, Wm. S., Palms, Cal.
Munter, Leo, San Francisco.
Murray, Janet, Schenectady, N. Y.
Neff, G. R., Farmington, Iowa.
Newman, Henry P., San Diego, Cal.
Newman, W. H., Long Beach, Cal.
Newton, John C., San Francisco.
Norton, Frank L., Los Angeles.
Orella, F. R., San Francisco.
Perry, Samuel W., New Castle, Pa.
Peters, Lulu H., Los Angeles.
Polak, John Osborn, Brooklyn.
Reddick, James T., Paducah, Ky.
Rice, Ed E., Shawnee, Okla.
Richmond, J. M., El Paso, Texas.
Richmond, W. W., Clinton, Ky.
Rogers, Thomas L., Long Beach, Cal.
Ross, Moses H., Los Angeles.
Rothenberg, Samuel, Cincinnati.
Sadler, Lena K., Chicago.
Scholl, Albert John, Los Angeles.
Scull, William B., Philadelphia.
Sexton, J. C., Rushville, Ind.
Shulean, Nellie S., Cambridge, Minn.
Winegar-Simpson, Abbie, Long Beach, Cal.
Simpson, F. F., Pittsburg.
Skeel, Donald W., Los Angeles.
Skinner, Cynthia A., Los Angeles.
Slater, Catherine B., Aurora, Ill.
Smith, Richard R., Grand Rapids, Mich.
Somers, George Burbank, San Francisco.
South, Lillian H., Bowling Green, Ky.
Speaker, W. T, Manson, Iowa.
Spiller, William H., New York.
Stark, Bertha Wagner, San Francisco.
Steele, H. L., Pittsburg, Kan.
Stillians, Daniel C., Redlands, Cal.
Swahlen, Percy H., St. Louis.
Tebbetts, Hiram B., Los Angeles.
Teel, A. W., Kahoka, Mo.
Thompson, Charles E., Dunsmuir, Cal.
Tompkins, Christopher, Richmond, Va.
Trueman, J. E., San Jose, Cal.
Van Voorhees, G. T., San Pedro, Cal.
Vowinckel, F. W., San Francisco.
Waiss, A. S., San Francisco.
Walker, Edwin, Evansville, Ind.
Weber, A. L., Cucumonga, Cal.
Welsh, Prudence M., Long Beach, Cal.
Wetherill, Horace G., Denver.
Wheat, A. F., Manchester, N. H.
Willits, Emma K., San Francisco.
Wilson, Carl G. W., Palo Alto, Cal.
Greene-Wilson, Dora, Kansas City, Mo.
Wilson, J. Miller, Pasadena, Cal.
Wolferman, A. Gertrude, Indianapolis.

Genito-Urinary Diseases

Baker, Andrew J., Grand Island, Neb.
Campbell, R. R., Chicago.
Curatts, Carl E., Oakland, Cal.
Dillingham, F. S., Los Angeles.
Evans, George B., Dayton, Ohio.
Freeman, Wiley H., Lockney, Texas.
Handly, James W., Nashville, Tenn.
Howard, L. V., Denver.
Jorgenson, H. C., Salt Lake City.
Laubersheimer, George A., Los Angeles.
Mackay, A. E., Portland, Oregon.
Norton, C. Worth, Los Angeles.
Rigdon, R. L., San Francisco, Cal.
Rosenkranz, Herbert Augustus, Los Angeles.
Roth, Leon Joseph, Los Angeles.
Sutherland, J. Lue, Grand Island, Neb.
Williams, Ralph, Los Angeles.
Wieg, John, Allegheny, Pa.

Practice of Medicine

Abrahm, Henry, San Francisco.
Adams, A. W., Bellevue, Mich.
Adams, Charles B., Los Angeles.
Adams, S. C., Huntsville, Mo.
Adelung, Edward von, Oakland, Cal.
Aitkens, H. B., Le Sueur Center, Minn.
Alcorn, Archibald J., Chicago.
Alderman, Mason C., Sedalia, Mo.
Algie, Robert, Linn, Kan.
Allan, J. T. M., Los Angeles.
Allen, Addie B., Los Angeles.
Allen, H. W., San Francis
Allen, Silas Gilbert, Ci Neb.
Allen, Will L., National Ci
Alvarez, Walter Clement Francisco.
Anderson, N., Chicago
Anderson, William Edward, Farmville, Va.
Andrews, H. J., Hollywood, Cal.
Andrews, J. W., Mankato, Minn.
Armstrong, J. M., Alhambra, Cal.
Armstrong, Veturia C., Los Angeles.
Arnold, Charles Saxon, Oakland, Cal.
Arnold, Horace D., Boston.
Ash, Rachel L., San Francisco.
Ashburn, P. M., San Francisco.
Atkinson, Charles E., Los Angeles.
Austin, M. O., San Francisco.
Austin, R. E., San Diego, Cal.
Austin, S. A., Los Angeles.
Avey, John L., Redlands, Cal.
Babcock, W. D., Los Angeles.
Bailey, F. A., Hillsboro, Ore.
Bailey, H. T., Courtland, Ariz.
Baird, James Gordon, Riverside, Cal.
Bakewell, Benjamin, Santa Barbara, Cal.
Balsley, J. A., Santa Monica, Cal.
Barham, Frank F., Los Angeles.
Barlow, W. Jarvis, Los Angeles.
Barnes, Henry E. W., Santa Ana, Cal.
Bartram, W. C., Newburgh, N. Y.
Battelle, E. L., Los Angeles.
Baumgaertner, Otto C., Rockport, Ind.
Bay, Samuel G., Quaker City, O.
Beach, Everette, Los Angeles.
Beckley, Chester C., Lancaster, Mass.
Bemisderfer, J. R., Monee, Ill.
Bender, F. P, Caro, Mich.
Bennett, Charles L., Los Angeles.
Betten, H. J., Garneill, Mont.
Beyer, H., Oceano, Cal.
Bierring, Walter L., Des Moines, Iowa.
Biggar, Henry R., Glen, N. Y.
Biggs, E. L., Hot Springs, Ark.
Billings, Frank, Chicago.
Blackstone, Thomas, Circleville, Ohio.
Blanchard, M. E., Marseilles, Ill.
Blanchard, Robert B., Jamestown, N. Y.
Bodenstab, William H., Bismarck, N. Dak.
Bond, L. L., Denison, Iowa.
Booth, John R., Seattle, Wash.
Bowcock, C. M., Springfield, Ill.
Bowerman, Albert C., El Monte, Cal.
Bowers, H. C., Scircleville, Ind.
Bowman, William B., Los Angeles.
Boyd, Walter M., Los Angeles.
Boyers, James S., Decatur, Ind.
Brem, Walter, Cristobal, C. Z.
Bridges, J. R., Kahoka, Mo.
Briggs, Eldorado C., Wilmington, Ohio.
Briggs, Solon, Pasadena, Cal.
Brittin, A. L., Athens, Ill.
Bromley, Frederick W., Palmyra, Wis.
Broome, Joseph R., New York.
Brown, Albert E., Conde, S. Dak.
Brown, Charlotte, Los Angeles.
Brown, Everett J., Decatur, Ill.
Brown, H. C., San Jose, Cal.
Brown, Philip King, San Francisco.
Brown, R. W., Bay City, Mich.
Brummall, J. D., Salisbury, Mo.
Bryan, Tony L., Evansville, Ind.
Bryant, Allen L., Glendale, Cal.
Bullard, Charles T., Los Angeles.
Bullard, William B., Los Angeles.
Bullen, F. W., Hibbing, Minn.
Bullock, N. H., San Jose, Cal.
Burch, E. Lee, Raymond, Cal.
Burke, Edward W., Highland, Cal.
Burgess, J. A. W., Iowa Falls, Iowa.
Burnham, Clark J., Berkeley, Cal.
Burnham, F. R., San Diego, Cal.
Burnett, A. L., Silverton, Colo.
Bush, J. H., Sterling Colo.
Byall, H. M., Montpelier, Ohio.
Campbell, Donald, Butte, Mont.
Cannon, G. S., Fornfelt, Mo.
Carey, J. W., Whitesboro, Texas.
Carson, J. K., Los Angeles.
Carson, L. O., New Augusta, Ind.
Carter, J. M. G., Los Angeles.
Carter, Marion D., Los Angeles.
Carver, C. R., Sterling City, Tex.
Cessna, F. Lee, Louisville, Ky.
Chapin, Clifford S., Great Barrington, Mass.
Chapline, F. L., Orange, Cal.
Chapman, William H., Corona, Cal.
Chase, Raymond E., Glendale, Cal.
Chase, William S., Akron, Ohio.
Choate, Joseph Lynn, Los Angeles.
Clark, John I., Santa Ana, Cal.
Clark, W. R. P., San Francisco.
Clausins, M. F., Siletz, Ore.
Clow, G. B. N., Oakland, Cal.
Clune, W. M., Darwin, Texas.
Coble, T. J., Shelbyville, Tenn.
Colburn, John R., Los Angeles.
Comstock, Daniel Delos, Glendale, Cal.
Condit, Joseph D., Pasadena, Cal.
Conner, Ada Scott, San Jose, Cal.
Connor, W. E., Cumby, Texas.
Cooke, T. Bates, Laconia, N. H.
Cooly, Abbott, L., Chicopee, Mass.
Coppedge, W. E., Alturas, Cal.
Corey, Martha Dunn, La Jolla, Cal.
Cornwall, Edward E., Brooklyn.
Cotter, P. G., Los Angeles.
Cottle, Cassius C., Los Angeles.
Cowan, James Rea, Los Angeles.
Crawford, Alexander, Mount Vernon, Iowa.
Criley, B. H., Dallas Center, Ia.
Crocker, M. M., Lordsburg, N. M.
Cummings, R. S., Long Beach, Cal.
Cunnane, T. E., Ventura, Cal.
Cunningham, R. L., Los Angeles.
Curtiss, F. Homer, Denver.
Cutler, Elbridge G., Boston.
Cutter, James Bird, Los Angeles.
Daniel, Sam G., Marshall, Ark.
Dawson, John L., Charleston, S. C.
Dearborn, Luther Gould, Jr., Derry, N. H.
Deering, Walter E., Los Angeles.
De Hass, Thomas W., Indianapolis.
DeLap, R. H., Richland Center, Wis.
Derrick, Joseph S., Los Angeles.
Devitt, Thomas G., Los Angeles.
Dickinson, George S., Erie, Pa.
Dillon, I. H., Auburn, Neb.
Doig, Robert L., San Diego, Cal.
Donnell, T. C., Long Beach, Cal.
Dougherty, P. S., Los Angeles.
Dresser, Ralph O., Paso Robles, Cal.
Dryer, John L., Santa Ana, Cal.
Duchein, C. F., Baton Rouge, La.
Duffield, William, Los Angeles.
Duncan, J. B., Bedford, Ind.
Durgin, F. L., Winnebago, Minn.
Earing, Edwin W., Los Angeles
Eastman, Henry A., Jamestown, N. Y.
Ebright, George E., San Francisco.
Eddy, George S., Los Angeles.
Elliott, Arthur R., Chicago.
Ellis, Melvin, Los Angeles.
Emmal, Frank S., San Francisco.
Evans, C. W., Los Angeles.
Evans, George H., San Francisco.
Eversole, H. O., Los Angeles
Fasig, Harry B., Los Angeles.
Fassett, Charles Wood, St. Joseph, Mo.
Favill, Henry B., Chicago.
Fawcett, C. E., Stewartville, Minn.
Fay, Albert S., Schenectady, N. Y.
Fellows, Alfred, Los Angeles.
Fick, Edward P., Seattle, Wash.
Fields, J. D., Austin, Texas.
Fish, Charles W., Los Angeles.
Fisher, Eugene M., Roswell, N. Mex.
Fleming, James W., Brooklyn.
Fly, Edward M., National City, Cal.
Forbes, Harvey J., Pasadena, Cal.
Forline, Henry H., Tustin, Cal.
Forsythe, Hugh, Baltimore.
Fox, A. L., Danville, Ill.
Fox, J. A., Hinton, W. Va.
Fox, Willard Henry, Los Angeles.
Foxworthy, Frank W., Indianapolis.
Franing, E. C., Galesburg, Ill
Frankenheimmer, Jule B., San Francisco.
Franklin, J. H., Guadalupe, Cal.
Frary, Burdett S., Los Angeles.
Fretz, Alfred E., Sellersville, Pa.
Frick, Donald J., Los Angeles.
Frick, Euclid B., Lieut.-Col., U. S. A., Presidio of San Francisco.
Fry, P. B., Benicia, Cal.
Fuller, G. E., Monson, Mass.
Fuller, John A., Las Vegas, Nev.
Fulton, Dudley, Los Angeles.
Furst, O. J., Peabody, Kan.
Gammell, H. W., Madison, Minn.
Garber, J. B., Dunkirk, Ind.
Gardner, George Albert, Chicago.
Gardner, M. N., Greenleaf, Kan.
Gary, I. Clark, Chicago.
Gerhard, Samuel P., Philadelphia.
Gerson, T. Perceval, Los Angeles.
Gildersleeve, J R., Richmond, Va
Gillespie, George Y., Duck Hill, Miss.
Gillespie, J. F., Greencastle, Ind
Gilmore, Amelia Weed, Auburn, N. Y.
Giltner, H. A., U. S. S. *Glacier*, D. C.

Girdlestone, C. W., Riverside, Cal.
Godfrey, E. L. B., South Pasadena, Cal.
Godin, Arthur F., Los Angeles.
Goff, H. Neville, San Diego, Cal.
Taylor-Goodman, C. W., Albuquerque, N. Mex.
Goodman, Minerva, Stockton, Cal.
Goodwin, Edward J., St. Louis.
Gore, D. C., Marshall, Mo.
Graham, James W., Lompoc, Cal.
Gray, Etta, Los Angeles.
Gregory, Idris Briggs, Ontario, Cal.
Greene, Charles Lyman, St. Paul.
Greene, E. B., Chicago.
Greenwood, Hugh A., Ancon, C. Z.
Gunn, Herbert, San Francisco.
Gwaltney, Sylvester, Los Angeles.
Hagedorn, Jesse Lee, Los Angeles.
Hagedorn, Mary E., Pasadena, Cal.
Hall, E. N., Bowling Green, Ky.
Hall, J. N., Denver.
Hamilton, James K., Alameda, Cal.
Hamilton, N. H., Santa Monica, Cal.
Hamman, Amos F., Long Beach, Cal.
Hanbridge, W. B, Ogdensburg, N. Y.
Haney, J. T., Tuscumbia, Ala.
Hansen, Carl A., Argyle, Wis.
Hare, Charles B., San Jose, Cal.
Harris, Eva L., Oakland, Cal.
Harris, Seale, Mobile, Ala.
Harris, Thomas W., Eugene, Ore.
Harrison, George W., Denver.
Hartzell, W. H., Allentown, Pa.
Hasencamp, Oscar, Toledo, Ohio.
Hasler, Walter T., Lehi, Utah.
Hay, Emil O., Los Angeles, Cal.
Haynes, John R., Los Angeles.
Hazelett, I. W., San Bernardino, Cal.
Heaton, Charles Austen, McCutchenville, Ohio.
Henderson, Edward, Pomona, Cal.
Hennemuth, J. L., Waterford, Cal.
Herbert, Henry, Los Angeles.
Hewlett, Albion Walter, Ann Arbor, Mich.
Hildreth, H., Delano, Cal.
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Hines, B. M., Uvalde, Tex.
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Holben, B. E., Mt. Auburn, Ill.
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Holder, R. E., Columbus, Ind.
Holliday, D. A., Fairmount, Ind.
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Holmes, T. B., Oakland, Cal.
Hoover, C. F., Cleveland, Ohio.
Horel, F. R., Arcata, Cal.
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Hornor, Dayton H., Alpaugh, Cal.
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Howard, W. N., Cape Girardeau, Mo.
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Hunter, Henry C., Milford, Utah.
Huntoon, H. A., Los Angeles.
Hurst, S. T., Greenview, Ill.
Hutcheson, W. R., Greencastle, Ind.
Hutchinson, Randall, Los Angeles.
Hutton, W. S., Fornfelt, Mo.
Hyslop, F. R., Whitewater, Wis.
Inman, M. M., Artesia, N. Mex.
Ireys, James T., Lakeside, Cal.
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Jackson, J. A., Hollywood, Cal.
Jacobs, Louis C., San Francisco.
Jacobson, August, Chicago.
Janes, John E., Pasadena, Cal.
Jaques, W. K., Chicago.
Jenks, Clarence A., Los Angeles.
Jennison, John E., San Diego, Cal.
De Jernett, W. B., Commerce, Tex.
Johnson, J. H., Los Angeles.
Johnson, Milbank, Los Angeles.
Johnson, W. C., Thurman, Iowa.
Johnston, E. J., So. Pasadena, Cal.
Johnston, J. H., Dutch Flat, Cal.
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Jones, N. W., Portland, Ore.
Jones, W. F., San Rafael, Cal.
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Kaess, Andrew J., Fargo, N. Dak.
Kerber, H. C., Chicago.
Ketcherside, E. B., Yuma, Ariz.
Keyn, Will S., Los Angeles.
King, Chas. L., Pasadena, Cal.
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Kitson, Frank S., North Manchester, Ind.
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Koons, H. Haynes, Los Angeles.
Kremer, John, Grand Rapids, Mich.
Kremers, Henry, Holland, Mich.
Krum, A. G., Erie, Pa.
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Richter, Louise May, Los Angeles.
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Thomas, Roy E., Phoenix, Ariz.
Thompson, Chas. W., Meadville, Pa.
Thompson, Thos. L., Indianapolis, Ind.
Thompson, Wesley, Huntington Park, Cal.
Thomson, J. A., Onawa, Iowa.
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Thornton, Andrew J., San Diego, Cal.
Thornton, David D., Los Angeles.
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Tice, Frederick, Chicago.
Tileston, Wilder, New Haven, Conn.
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Tolson, F. R., Lafayette, La.
Tompkins, W. W., Charleston, W. Va.
Topping, Frank P., San Francisco.
Trew, Niel C., Los Angeles.
Trimmer, E. Luther, Los Angeles.
Trueblood, Chas., Monte Vista, Colo.
Trueworthy, J. W., Los Angeles.
Twitchell, Edward W., Sacramento, Cal.
Tyler, B. D., Guthrie, Ky.
Tyler, Hoell, Redlands, Cal.
Urmston, Wm. B., El Paso, Tex.
Utley, Jay H., Los Angeles.
Vadakin, J. H., Bethany, Ill.
Valle, C. C., San Diego, Cal.
Van Meter, S. Y., Los Angeles.
Veazey, W. M., Avilla, Ind.
Van Zwaluwenburg, Jas. G., Ann Arbor, Mich.
Violet, J. C., Chicago.
Visscher, Louis G., Los Angeles.
Voorsanger, Wm. C., San Francisco.
Waggoner, E. L., Los Angeles.
Wagner, L. H., Cleveland, Ohio.
Wallace, Agnes McKie, Prescott, Ariz.
Walrath, Geo. B., Los Angeles.
Warden, Carl C., Los Angeles.
Warner, H. M., Hempstead, N. Y.
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Waterhouse, A. H., Koloa Kauai, H. I.
Waterman, C. O., Long Beach, Cal.
Weaver, Benj. F., Visalia, Cal.

Gibbs, Roy S., San Bernardino, Cal.
Goldspohn, Albert, Chicago.
Greer, Bertha Allen, Lamoni, Ia.
Guinn, J. H., Arkansas City, Kan.
Gutline, Alice B., Denver
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Harter, Isaac F., Stronghurst, Ill.
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Heisz, Emily J., Chicago.
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Hobbs, Alice L., Indianapolis.
Hoffmann, Charles von, San Francisco.
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Ide, Charles Edward, Redlands, Cal.
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Jacobson, Julius H., Toledo, Ohio.
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Johnson, Walter Sydney, Los Angeles.
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Lamb, J. L., Los Angeles.
Larrabee, F. W., Alton, Ill.
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Lieth, H. O. von der, San Francisco.
Lewis, W. E., Seaside, Ore.
Lewis, Will J., Santa Ynez, Cal.
Lindley, Walter, Los Angeles.
Lockwood, E. H., Bayard, Iowa.
Loomis, E. E., Janesville, Wis.
Lorney, Robert N., Prescott, Ariz.
MacEvitt, John Cowell, Brooklyn.
Magee, Chester Lea, Los Angeles.
March, E. J., Canton, Ohio.
Marshall, Clara, Philadelphia.
Martin, Franklin H., Chicago.
Mayne, William Hawthorne, Los Angeles.
McNeile, Lyle G., Los Angeles.
Melvin, J. Tracy, Porterville, Cal.
Miller, C. Jeff., New Orleans.
Miller, S. M., *Knoxville, Tenn.*
Miller, William E., Columbus, Ill.
Montgomery, E. E., Philadelphia.
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Moore, James S., Portland, Ore.
Morris, Margaret M., Los Angeles.
Morrison, N. D., San Mateo, Cal.
Mortensen, Wm. S., Palms, Cal.
Munter, Leo, San Francisco.
Murray, Janet, Schenectady, N. Y.
Neff, G. R., Farmington, Iowa.
Newman, Henry P., San Diego, Cal.
Newman, W. H., Long Beach, Cal.
Newton, John C., San Francisco.
Norton, Frank L., Los Angeles.
Orella, F. R., San Francisco.
Perry, Samuel W., New Castle, Pa.
Peters, Lulu H., Los Angeles.
Polak, John Osborn, Brooklyn.
Reddick, James T., Paducah, Ky.
Rice, Ed E., Shawnee, Okla.
Richmond, J. M., El Paso, Texas.
Richmond, W. W., Clinton, Ky.
Rogers, Thomas L., Long Beach, Cal.
Ross, Moses H., Los Angeles.
Rothenberg, Samuel, Cincinnati.
Sadler, Lena K., Chicago.
Scholl, Albert John, Los Angeles.
Scull, William B., Philadelphia.
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Shulean, Nellie S., Cambridge, Minn.
Winegar-Simpson, Abbie, Long Beach, Cal.
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Slater, Catherine B., Aurora, Ill.
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Somers, George Burbank, San Francisco.
South, Lillian H., Bowling Green, Ky.
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Stillians, Daniel C., Redlands, Cal.
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Teel, A. W., Kahoka, Mo.
Thompson, Charles E., Dunsmuir, Cal.
Tompkins, Christopher, Richmond, Va.
Trueman, J. E., San Jose, Cal.
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Vowinckel, F. W., San Francisco.
Waiss, A. S., San Francisco.
Walker, Edwin, Evansville, Ind.
Weber, A. L., Cucumonga, Cal.
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Wheat, A. F., *Manchester, N. H.*
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Laubersheimer, George A., Los Angeles.
Mackay, A. E., Portland, Oregon.
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Rigdon, R. L., San Francisco, Cal.
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Roth, Leon Joseph, Los Angeles.
Sutherland, J. Luc, Grand Island, Neb.
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Wieg, John, Allegheny, Pa.

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Adams, S. C., Huntsville, Mo.
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Cotter, P. G., Los Angeles.
Cottle, Cassius C., Los Angeles.
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Crawford, Alexander, Mount Vernon, Iowa.
Criley, B. H., Dallas Center, Ia.
Crocker, M. M., Lordsburg, N. M.
Cummings, R. S., Long Beach, Cal.
Cunnane, T. E., Ventura, Cal.
Cunningham, R. L., Los Angeles.
Curtiss, F. Homer, Denver.
Cutler, Elbridge G., Boston.
Cutter, *James Bird*, Los Angeles.
Daniel, Sam G., Marshall, Ark.
Dawson, John L., Charleston, S. C.
Dearborn, Luther Gould, Jr., Derry, N. H.
Deering, Walter E., Los Angeles.
De Hass, Thomas W., Indianapolis.
DeLap, R. H., Richland Center, Wis.
Derrick, Joseph S., Los Angeles.
Devitt, Thomas G., Los Angeles.
Dickinson, George S., Erie, Pa.
Dillon, I. H., Auburn, Neb.
Doig, Robert L., San Diego, Cal.
Donnell, T. C., Long Beach, Cal.
Dougherty, P. S., Los Angeles.
Dresser, Ralph O., Paso Robles, Cal.
Dryer, John L., Santa Ana, Cal.
Duchein, C. F., Baton Rouge, La.
Duffield, William, Los Angeles.
Duncan, J. B., Bedford, Ind.
Durgin, F. L., Winnebago, Minn.
Earing, Edwin W., Los Angeles
Eastman, Henry A., Jamestown N. Y.
Ebright, George E., San Francisco.
Eddy, George S., Los Angeles.
Elliott, Arthur R., Chicago.
Ellis, Melvin, Los Angeles.
Emmal, Frank S., San Francisco.
Evans, C. W., Los Angeles.
Evans, George H., San Francisco.
Eversole, H. O., Los Angeles.
Fasig, Harry B., Los Angeles.
Fassett, Charles Wood, St. Joseph, Mo.
Favill, Henry B., Chicago.
Fawcett, C. E., Stewartville, Minn.
Fay, Albert S., Schenectady, N. Y.
Fellows, Alfred, Los Angeles.
Fick, Edward P., Seattle, Wash.
Fields, J. D., Austin, Texas.
Fish, Charles W., Los Angeles.
Fisher, Eugene M., Roswell, N. Mex.
Fleming, James W., Brooklyn.
Fly, Edward M., National City, Cal.
Forbes, Harvey J., Pasadena, Cal.
Forline, Henry H., Tustin, Cal.
Forsythe, Hugh, Baltimore.
Fox, A. L., Danville, Ill.
Fox, J. A., Hinton, W. Va.
Fox, Willard Henry, Los Angeles.
Foxworthy, Frank W., Indianapolis.
Franing, E. C., Galesburg, Ill
Frankenheimmer, Jule B., San Francisco.
Franklin, J. H., *Guadalupe*, Cal.
Frary, Burdett S., Los Angeles.
Fretz, Alfred E., Sellersville, Pa.
Frick, Donald J., Los Angeles.
Frick, *Euclid* B., Lieut.-Col., U. S. A., Presidio of San Francisco.
Fry, P. B., Benicia, Cal.
Fuller, G. E., Monson, Mass.
Fuller, John A., Las Vegas, Nev.
Fulton, Dudley, Los Angeles.
Furst, O. J., Peabody, Kan.
Gammell, H. W., Madison, Minn.
Garber, J. B., Dunkirk, Ind.
Gardner, George Albert, Chicago.
Gardner, M. N., Greenleaf, Kan.
Gary, I. Clark, Chicago.
Gerhard, Samuel P., Philadelphia.
Gerson, T. Perceval, Los Angeles.
Gildersleeve, J R., Richmond, Va
Gillespie, George Y., Duck Hill, Miss.
Gillespie, J. F., Greencastle, Ind
Gilmore, Amelia Weed, Auburn, N. Y.
Giltner, H. A., U. S. S. *Glacier*, D. C.

Medical Education and State Boards of Registration

COMING MEETINGS

CALIFORNIA: San Francisco, August 1. Sec., Dr. Charles L. Tisdale, 929 Butler Building.
NEBRASKA: Lincoln, August 9. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

The University of Michigan Establishes a Course in Public Health

The Department of Medicine and Surgery of the University of Michigan has provided for and will inaugurate next year courses leading to the degrees of master of science (in public health) and of doctor of public health. Candidates must possess the two degrees of bachelor of arts and doctor of medicine.

For the degree of master of science in public health the course of instruction will cover one academic year. For the degree of doctor of public health the course will extend through two years. Research work will be required for the doctor's degree.

The subjects in which instruction will be given will be as follows:

FIRST SEMESTER	Hours Weekly
Advanced bacteriology and parasitology	10
Practical hygiene (meat, milk and water)	5
Physical education	5
Sanitary engineering (plumbing, draining)	2
Building, sanitation	1
Hydraulic work (water supplies)	2
Autopsy technic	2
Special pathology of infectious diseases	5
Social and vital statistics	1
Sanitary legislation	2

SECOND SEMESTER	Hours Weekly
Practical hygiene (foods, clothing, personal hygiene, prophylaxis, quarantine, isolation, disinfection, disposal of dead, etc.)	10
Physical education (theory and application of physical training, practical anthropometry)	5
Sanitary engineering (garbage and waste disposal, sewage)	10
Pathology of occupational diseases	1
Serum and vaccine therapy	5

Preliminary Educational Requirements in Louisiana

Dr. A. B. Brown, secretary of the Louisiana State Board of Medical Examiners, writes that on and after October 18, 1911, applicants for license to practice medicine in Louisiana must furnish satisfactory evidence of possessing qualifications such as are obtained by a student finishing and graduating from a four-year high school, with educational units showing fourteen units, with the following distributions:

> REQUIRED: (a) English, 3 units (grammar, rhetoric, literature, each 1 unit); (b) mathematics, 3 units (algebra, 1½ units; plane geometry, 1 unit; solid geometry, ½ unit); (c) history, 2 units, selected from history of England and America, 1 unit; history of United States, 1 unit; general history, 1 unit; Greek and Roman history, 1 unit; (d) language, Latin, 2 units (grammar and composition, 1 unit; four books of Caesar or its equivalent, 1 unit).
>
> ELECTIVE: French, 1 or 2 units; German, 1 or 2 units; Spanish, 1 or 2 units; physics, 1 or 2 units; chemistry, 1 or 2 units; botany, ½ or 1 unit; zoology, ½ or 1 unit; physiography, 1 unit; physiology, 1 unit; freehand drawing, 1 unit; mechanical drawing, ½ unit; manual training, ½ to 2 units. Among these, fourteen (14) units must be satisfied.

A unit represents the work done in a high school in one full session of not less than thirty-six weeks, with five recitations of forty minutes each per week.

The board will accept the following as satisfying the above qualifications:

> a. A diploma from a reputable university or college granting the degree of A.B., B.S., or an equivalent degree.
>
> b. A certificate of admission by examination to entrance in a standard university, viz., one requiring a high school diploma with the above fourteen units.
>
> c. A diploma from a high school, academy or normal school, the curriculum of which may satisfy by certification the fourteen specified units.
>
> d. A medical student's certificate issued by certification or after examination by any state board of medical examiners having a standard for certification based on a high school diploma with the fourteen required units.

As some states require the certificates from other state boards of medical examiners to be issued or certified by state officials in education not connected with the university with which the medical school or department is identified, the Louisiana State Board of Medical Examiners has established the following rule:

> Students beginning the study of medicine in the State of Louisiana will be furnished, on application, with medical students' certificates on (a) a certificate showing a credit of fourteen units from a recognized high school and on graduation from the same; (b) on examination before the superintendent of education of the State of Louisiana or of the City of New Orleans. Such certificates, to become valid, must be approved by the secretary of the State Board of Medical Examiners of Louisiana.

Book Notices

A POCKET-BOOK OF TREATMENT. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Leather. Price, $1.70 net. Pp. 348. New York: Longmans, Green & Co.

In this manual the author has aimed at securing brevity without the sacrifice of clearness. For this reason he has assembled in the first part of the book a description of the various methods of treatment to which the reader is referred under the individual diseases. In this section there are some valuable hints and reflections that ought to serve as food for thought by the reader. We commend special attention to the section on "Treatment by New Remedies" in which the genesis of nostrums from the recommendations of standard books on therapeutics is graphically described. The author says, "The young practitioner purrs when he is told he is up to date. When he becomes more experienced he will have discovered that it is safer to be, say, six months behind the times. In fact, the up-to-date physician may be defined as a man who experiments on his patients."

Under "Treatment by Hypnosis and Suggestion," it is interesting to note that the effects of homeopathic treatment and of many operations are referred to suggestion. Good directions are given for preparation for operations and after-treatment; it seems, however, as if it might have been better to refer the reader to his surgical text-books rather than to attempt to cover this subject in less than three pages.

The second part of the manual is mainly a collection of formulas; the names of diseases and syndromes are arranged alphabetically after the manner of other therapeutic indexes.

DISEASES OF THE ANUS, RECTUM AND SIGMOID. For the Use of Students and General Practitioners. By Samuel T. Earle, M.D., Professor Emeritus of Diseases of the Rectum in the Baltimore Medical College. Cloth. Price, $5 net. Pp. 476, with 152 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

One takes up this work with pleasant anticipations only to lay it down with a feeling of keen disappointment. Instead of a record of ripe experience of one of the Nestors among specialists in rectal diseases in this country, it turns out to be mainly a collection of extracts—one of them eight pages long—none too skilfully welded together.

After preliminary sections devoted to anatomy, physiology and examination, respectively, the various affections are discussed. The description of colostomy and extirpation of the rectum being separated by a chapter on tumors, and wounds and foreign bodies bringing up the rear. It strikes us that a more orderly arrangement would be preferable. In fact the whole work shows evidence of undue haste in its preparation. Chapters are included on "Affections of the Coccyx" and on "Congenital Dilatation of the Colon," though the connection of these with the field of work is not at first apparent. The latter condition does not involve the rectum; it causes constipation, to be sure, but several other conditions would also merit consideration on this account.

Miscellaneous

The following failed to indicate preference for any section, or marked more than one on the registration card.

Alvarez, Luis F., Los Angeles.
Armstrong, Maurice M., Los Angeles.
Baer, Adolf B., San Francisco.
Bagg, Charles P., Surgeon, U. S. N., Los Angeles.
Barnes, S. M., Santa Ana, Cal.
Barr, W. T., Fresno, Cal.
Bicknell, F. T., Los Angeles.
Bonynge, Charles W., Los Angeles.
Brophy, Truman W., Chicago.
Brown, Archibald R., San Dimas, Cal.
Brown, F. Earl, Los Angeles.
Brown, George V. I., Milwaukee, Wis.
Brown, N. N., Bakersfield, Cal.
Buckley, Emma, San Francisco.
Byron, R. L., Los Angeles.
Clark, Jonas, San Jose, Cal.
Clark, William D., San Francisco.
Coulter, Herbert M., South Pasadena, Cal.
Cox, H. M., San Luis Obispo, Cal.
Deichmiller, Conrad, Los Angeles.
Dickson, C. S., Riverside, Cal.
Dodge, William, Los Angeles.
Dwight, Henry L., New Bedford, Mass.
Eshleman, L. H., Marion, Ind.
Evans, J. H., Highland, Cal.
Fisher, Edward D., New York.
Forline, Hamilton, Redlands, Cal.
Harris, Philander A., Paterson, N. J.
Hilliard, Carlos G., Redlands, Cal.
Hoffman, L. H., San Francisco.
Hornsby, John A., Chicago.
Howe, R. C., Colton, Cal.
Hulbert, Robert G., San Diego, Cal.
Hull, Frank E., Los Angeles.
Hutchinson, George A., Los Angeles.
Jenkins, J. E., Los Angeles.
Jenkins, J. F. T., Los Angeles.
Kiger, W. H., Los Angeles.
Knott, John M., Sioux City, Ia.
Kurtz, Joseph, Los Angeles.
Lafferty, Edward E., Bogalusa, La.
Lorenz, John W., Evansville, Ind.
Matson, Ray W., Portland, Ore.
McConnell, George G., Chicago.
Medlock, J. R., Santa Ana, Cal.
Minney, J. E., Los Angeles.
Mitchell, Henry, Asbury Park, N. J.
Molony, Martin, San Francisco.
Molony, William R., Los Angeles.
Montgomery, D. W., San Francisco.
Morrow, Howard, San Francisco.
Newcomb, W. K, Champaign, Ill.
Nichols, William V., Oceanside, Cal.
Nixon, Anne W., Pasadena, Cal.
Nutting, Floyd, Los Angeles.
Oakley, H. W., Porterville, Cal.
Parker, Ida B., Orange, Cal.
Pascoe, Elma R., Los Angeles.
Perry, W. F., Los Angeles.
Pinard, P. H. A., Jefferson, S. D.
Pinkston, A. R. W., Ft. Meade, S. Dak
Powers, L. M., Los Angeles.
Prentice, George L., Garden Grove, Cal.
Rossman, C. G., Hudson, N. Y.
Sample, John T., Baltimore.
Smith, A. M., Oakland, Cal.
Smith, Frederick J., San Diego, Cal.
Spitler, S. W., Wellington, Kan.
Stafford, O. R., Los Angeles.
Stivers, Charles Gaskill, Los Angeles.
Surryhne, B. F., Modesto, Cal.
Tape, G. W., Hot Lake, Ore.
Thackeray, W. T., Chicago.
Thompson, David, Denver.
Topham, Bertram E., Los Angeles.
Totman, D. M., Syracuse, N. Y.
Tower, A. M., Lodi, Cal.
Tracy, Frank M., San Marcos, Cal.
Ward, Henry B., Urbana, Ill.
Warner, Eugene R., Denver.
Webb, Gerald B., Colorado Springs, Colo.
Weber, Louis, Los Angeles.
White, C. M., Visalia, Cal.
Yale, A. E. W., Pigeon, Mich.
Young, G. B., Chicago.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE MEDICAL PROFESSION IN GERMANY

The United States Consul-General at Dresden has reported in the *Daily Consular and Trades Reports* an article in the *Deutsche Medizinische Wochenschrift*, giving a statistical review of the medical profession for 1910. According to this weekly, there are at present practicing in Germany 32,449 physicians or 5.01 doctors for every 10,000 of population, an increase of 480 over 1909. As the number of medical students has risen from 9,239 in 1909 to 11,125 in 1910, a still further increase in the number of physicians may be anticipated. The actual increase in practitioners is largely in the cities: Berlin has 12.32 physicians per 10,000; Wiesbaden, 22.6; Munich, 16.6, and Stuttgart, 9.7. The number of female doctors has risen from 55 in 1908 and 69 in 1909 to 102 in 1910, while the number of female medical students has increased from 371 to 512.

"A MAN WITH A MESSAGE"

The following editorial from a recent number of the *Houston* (Tex.) *Chronicle* indicates the effect produced on the community by Dr. McCormack's recent address in that city:

> There have been [illegible] addresses delivered in Houston, in the judgment of the *Chronicle*, which were more needed and which contained more sound, sensible advice and instruction than those delivered by Dr. J. N. McCormack, organizer of the American Medical Association.
>
> His address—or rather his plain, practical talk—at the Young Men's Christian Association Sunday evening—strong by reason of its marvelous clearness and simplicity—was such a message as needs to be told to youth and young and old manhood alike. Dr. McCormack could make the same talk before any woman's society or any social club or high school without giving offense to any right-thinking man or woman.
>
> He makes two statements that deserve to be driven into the minds and consciences of all the people. One was that the idea that we can keep our children pure by keeping them ignorant is wholly false; and the other was that, while all men recognize the profound importance and the necessity of purity in women, the idea is widespread that the same standard of continence and purity in men is at once unimportant and impossible. This contention he justly denounced as false and vicious.
>
> He dealt with the question as one which relates more to the future than to the present. He spoke in recognition of the divine declaration that "I will visit the sins of the father upon the children, even unto the third and fourth generation," and asserted that the truth of that deliverance made from Sinai was proved every day in the experience of reputable physicians. The evils of immorality were made manifest in defective children, in diseases transmitted, in blindness and impure blood, and, speaking as a surgeon of long experience, he said that the alarming proportion of 60 per cent. of the surgical operations on women were made necessary by and could be traced to impurity on the part of men.
>
> There is no question in which the whole body of society is as much interested as it is in the health of the people, and, as Dr. McCormack said, it is not the large, visible, easily reached enemies of health which are most to be dreaded, but the apparently insignificant ones, such as mosquitoes, flies and fleas. The three young physicians who gave up their lives to prove that the mosquito was the agency which transmitted yellow fever lie unhonored in unmarked graves because we build monuments to those who destroy human life, not to those who save it; yet these men made clear that which stamped out one of the scourges of humanity.
>
> Flies are the chief agency for spreading the germs of typhoid fever, and the bubonic plague, which carries terror to the hearts of men, is spread by fleas, and the fleas are carried from place to place by rats.
>
> The medical association of the United States is conferring incalculable benefit on the whole people by making possible such a work as Dr. McCormack is doing.
>
> It would be worth a million dollars to Houston if the dangers he points out could be appreciated by all her people, and the lessons he teaches and the instructions he gives were followed by them. The world has slept long, but is awakening now, and the campaign for higher morals and better health will never halt.

A NEW TUBERCULOSIS DIRECTORY

The National Association for the Study and Prevention of Tuberculosis has issued a new edition[1] of the "Tuberculosis Directory," which shows that over 600 cities and towns of the United States and about 100 in Canada are at present making active efforts for the suppression of consumption, and that on April 1, 1911 there were nearly 1,500 different agencies at work for the reduction of tuberculosis, an increase of nearly 700 per cent. in the last seven years. The directory gives 421 tuberculosis sanatoriums, hospitals and day camps, 511 associations and committees for the prevention of tuberculosis, 342 special dispensaries, 68 open-air schools, 98 hospitals for the insane and penitentiaries which make special provision for tuberculous inmates. The book also contains a summary of the antituberculosis legislation in every state as well as the municipal ordinances of about 250 cities. This book therefore contains a complete synopsis of the entire antituberculosis movement and shows graphically the phenomenal growth of this campaign in the last seven years. In 1905, when the first directory was issued, there were only 183 organizations and institutions for the care and treatment of tuberculosis in the entire United States. In the second edition, published in 1908, there were 649 listed, while the total number of tuberculosis institutions and antituberculosis organizations at present is 1,440.

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[1] Cloth, 331 pages, price 50 cents, 105 East Twenty-Second Street, New York.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Experimental Medicine, New York

July

1 *Strongyloides Infections in Man and Animals in Canal Zone. S. T. Darling, Aucon, C. Z.
2 Toxic Action of Certain Normal Serums and Its Relation to Anaphylaxis. H. Zinsser, California.
3 *Immunity and Anaphylaxis. R. M. Pearce, H. T. Karsner and A. B. Eisenbrey, Philadelphia.
4 *Calcium and Iron Incrustation and Other Lesions of the Elastic Tissue of the Spleen and Liver. T. P. Sprunt, Baltimore.
5 *Serum Treatment of Influenzal Meningitis. M. Wollstein, New York.
6 Formation of Precipitates After Intravenous Injection of Salvarsan. D. R. Joseph, New York.

1. **Strongyloides Infections.**—From a study of strongyloides infections in man and animals, it has been determined by Darling in confirmation of the view of Grassi, Calmette and others, that they are not causative factors in the production of diarrhea. The mother worm, however, burrows into the mucosa and deposits her ova there. Certain tissue reactions take place and are evidenced by the cellular proliferation in those portions of the intestines occupied by the nematodes. Portals of entry for various microorganisms are made by the female mother worm and her larvæ in the small intestine, and, while no case of general bacterial infection has been proved to have arisen in this way, Darling regards its occurrence as possible and highly probable.

3. **Immunity and Anaphylaxis.**—The sera of rabbits injected repeatedly with the nucleoproteins, globulins and albumins of the liver and kidney of the dog gave no evidence *in vitro* or *in vivo* experiments of organ affinity. The precipitin test offered no proof of the specificity of these sera for the proteins employed as antigens. The anaphylaxis reaction applied to the same proteins indicate a slight relative organ affinity but no specificity as far as the respective protein fractions are concerned. The relative organ affinity resides, the authors believe, rather in the globulin and albumin fractions than in the nucleoprotein fraction. Dog serum used both as a sensitizing and an intoxicating agent gives rise to very active cross reactions with organ proteins, thus failing to support the theory of organ or of protein specificity. These results do not support the view put forward that nucleoproteins play an important part in the course of production of cytotoxic immune sera.

4. **Calcium and Iron Incrustation of Liver.**—The lesion described by Sprunt consists of a selective impregnation of the elastic tissue in the splenic trabecula and vessels with the phosphates, and perhaps other salts, of calcium and iron. There is a further chemical change in the elastic fibers which may be expressed by the term "elacin." Degenerated and, especially, calcified elastic tissue, even more than calcification in general, seems to possess an affinity for iron salts. The iron incrustations occur principally in congested or hemorrhagic tissues. The etiologic agent in this case is obscure. The only other example of this lesion in the spleen was in a case of Banti's disease. Many features of this case suggested a primary splenomegaly, but the evidence in its favor was not conclusive. Calcified elastic fibers, without the iron and elacin reactions, were also present in the liver, which was the seat of a recent apparently biliary or infectious cirrhosis. The elastic tissue of other organs showed nothing remarkable except in the skin, in which the fibers were undergoing the usual senile changes.

5. **Serum Treatment of Influenzal Meningitis.**—The injection of virulent cultures of *B. influenzæ* into the subdural space of several species of lower monkeys was followed by the development of an acute inflammation of the meninges, corresponding in clinical, bacteriologic and pathologic effects with influenzal cerebrospinal meningitis in human beings. Wollstein found that by repeated injection, over a period of many months, of living virulent cultures of *B. influenzæ* into the goat, an immune serum possessing moderate agglutinating and high opsonic power may be produced, which is capable, when injected into the subdural space, of arresting the progress of an experimental influenzal meningitis, and of bringing about recovery in monkeys thus affected. In view of the highly fatal character of influenzal meningitis in human beings, the employment of an immune serum by subdural injection is recommended. Undoubtedly it will be necessary to apply the serum early and by repeated injections, by means of lumbar puncture, to secure beneficial results. The early application will, in turn, be dependent on prompt bacteriologic diagnosis, which can be made, as a rule, by the immediate microscopic examination of the cerebrospinal fluid without the employment of cultural methods.

Vermont Medical Monthly, Burlington

June

7 Present Treatment of Pulmonary Tuberculosis. W. C. Klotz, New York.
8 The Thyroid. C. A. Pease.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

June

9 Therapeutic Value of Sodium Cacodylate. S. L. Dawes, Albany.
10 *Successful Treatment of Tetanus. H. Beates and B. A. Thomas, Philadelphia.
11 "The Fasting Cure" Answered. A. Bassler, New York.
12 *Some Observations on Vaccine Therapy. E. W. Nagle, Boston.
13 *Uses of Nickel Sulphate in Medicine. L. Kolipinski, Washington, D. C.

10. **Treatment of Tetanus.**—The essential features in the history of this case from the therapeutic standpoint were: first, the onset of the disease four days prior to treatment (and three weeks after vaccination), affording ample time for the development of the tetanic toxins, and, second, the indefinite period of incubation, which may have been twenty-one days, on the supposition that the patient was infected at the time of vaccinia, although the more plausible and truer solution is probably that the tetanus bacillus gained access to the vaccination wound subsequently by virtue of inadequate after-treatment, and the patient's environment in and about a stable. The history and physical condition of the patient when first seen and treated were not such as to warrant a hopeful prognosis. The authors determined on a definite line of treatment, namely: antitetanic serum as the sheet anchor, and either magnesium sulphate or chlorbutanol (chloretone), or both, as symptomatic measures for the relief of spasticity, muscular spasms or convulsive seizures. A noteworthy fact relative to the intraspinal injections, six times of magnesium sulphate, and three times of antitetanic serum, was that on no occasion did there occur a flow of cerebrospinal fluid from the aspirating needle prior to the instillation of either the magnesium sulphate or the antitoxin. The following are emphasized as the important indications: 1. The destruction at the focus of origin of the tetanus bacilli. 2. The neutralization of the tetanolysin in the tissues. 3. The neutralization of the tetanospasmin in the cord itself. The special symptoms, such as sleeplessness, the spasms themselves, etc., were treated by the administration of suitable remedies meeting the indications, with marked amelioration of suffering.

12. Abstracted in THE JOURNAL, June 3, 1911, p. 1676.

13. **Uses of Nickel Sulphate in Medicine.**—This comparatively unknown therapeutic agent Kolipinski has used successfully in a number of conditions. The dose of nickel sulphate (the salt usually used) is 1 grain, after meals or food, three or four times a day. One-half grain will often achieve good therapeutic action, but the larger dose is surer and as well borne. Two to five grains or more are so prone to cause severe nausea and vomiting that these quantities must be considered too large for practical use. The forms of administration are pill, tablet and solution. Nickel and cobalt, though closely related chemically and physically and similar in toxic action, are widely different as germicides, and, as medicinal agents, nickel is active and variedly useful, while cobalt is apparently inert. Nickel sulphate was found to be potent as a germ-destroyer and has an antibactericidal power.

It was applied by Kolipinski in several of the commoner parasitic skin diseases with success. Arrest of evolution and healing of the lesions resulted when it was applied in aqueous solution, in a strength of 1 to 2 per cent. It can be used as a wet compress, or mopped or brushed on the skin and allowed to dry there. It was found by Kolipinski to cure impetigo contagiosa, pityriasis versicolor or chromophytosis, trichophytosis corporis or ringworm of the body, and that other more obstinate form of eruption to treat, eczema marginatum. Alopecia areata showed a faint growth of very fine new hair at the end of a week, and at the end of six weeks normal scalp and hair covering. In acne vulgaris, Kolipinski says, it is a good remedy applied locally several times a day, and where the subject is young and pale, as is commonly the case in this disease, it may also at the same time be given internally. Other diseases reported on by Kolipinski are chorea, motor disturbance with spasm and incoordination much unlike chorea and chronic neuralgia of the face, tic douloureux, migraine of whatever form, chronic enteritis, epilepsy, emotional and psychic weakness, neurasthenia, etc. Kolipinski is very enthusiastic over the medicinal virtues of nickel, basing his enthusiasm on personal observation as well as on the experiences of others.

Ophthalmic Record, Chicago

June

14 Directions for Muscle Exercises. A. Duane, New York City.
15 Double Cross-Cylinder. J. N. Rhoads, Philadelphia.
16 Double Perforation of the Eyeball by Foreign Bodies, with Recovery of Perfect Vision. H. Freidenwald, Baltimore.
17 Influence of Salvarsan on the Eye. W. H. Crisp, Denver.

Southern California Practitioner, Los Angeles

June

18 Pellagra. G. Dock, St. Louis.
19 *Sterilized Spinal Fluid Subcutaneously Reinjected for Tubercular Meningitis. H. H. Lissner, Los Angeles.
20 *Pelvic Findings in the Female Insane, with Results Following Treatment. E. A. Hall, Long Beach, Cal.
21 History of Medicine—Hippocratean Period. B. Smith, Los Angeles.

19. **Sterilized Spinal Fluid in Tubercular Meningitis.**—One of the interesting features of Lissner's case was the amount of cerebrospinal fluid withdrawn. Fifty-five c.c. were withdrawn at one time and 45 c.c. twelve hours later, making a total of 100 c.c. Eighty c.c. were obtained from two punctures within an hour, and on several other occasions two punctures were done within twenty-four hours, without any evidence of untoward effects from the puncture, *per se*. The guide to the amount of fluid withdrawn was the condition of the patient, the effect on the symptoms and the rapidity of the flow. The fluid was caught in sterile tubes and the quantity measured from time to time. In this case 387 c.c. were removed in all. Lumbar puncture was performed twelve times. Five c.c. of this fluid were sterilized and reinjected, but so late in the course of the disease that no observation of its effect on the process could be noted. In considering the cytodiagnosis in this case, it was interesting to note that in the first specimen obtained and examined, the lymphocytes (small) predominated. At the second examination the lymphocytes still predominated, but the type had changed from the small lymphocytes to the mononuclear type of leukocyte.

20. **Pelvic Findings in Female Insane.**—Hall does not regard insanity as an obstacle to the performance of operations on women.

American Journal of Urology, New York

June

22 Summary of Results from Use of Vaccines and the Sera of Gonococci and Other Pyogenic Organisms in Urology. R. F. O'Neil, Boston.
23 Salvarsan in Syphilis. C. S. Stern, Hartford, Conn.

Archives of Pediatrics, New York

June

24 *Hereditary Syphilis and Wassermann Reaction. M. S. Reuben, New York.
25 Study of Non-Diphtheritic Exudates. S. S. Woody and J. A. Kolmer, Philadelphia.
26 Care of the Exceptional Child. E. B. McCready, Pittsburg.
27 *Premiums for Nursing Mothers and Milk Depots for Infants. C. Herrman, New York.
28 Case Showing Symptoms of Intracranial Pressure with Recovery. H. Lowenburg, Philadelphia.
29 *Delirium Tremens in a Boy of Twelve. C. F. Lewis, Austin, Minn.

24. **Hereditary Syphilis and Wassermann Reaction.**—Reuben holds that there is only one mode of transmission of syphilis from mother to child possible, and that is by way of the placenta. Whether a healthy non-diseased placenta can transmit spirochetes is an open question. Sufficient evidence is at hand to prove that in a majority of cases of syphilitic infants pathologic findings are noted, such as the syphilitic virus is known to produce. Spirochetes are usually found in abundance in the fetal portion of the placenta, and almost always in the cord, but are seldom found in the maternal portion of the placenta. From these facts one may make the following deductions: (1) If an infant is syphilitic its father may or may not have syphilis. (2) If an infant is syphilitic its mother invariably has syphilis. (3) The most usual mode of transmission of syphilis to infants is by way of the placenta.

Of 123 mothers whose blood was examined within a short time of birth of syphilitic infants, 110 (90 per cent.) gave a positive Wassermann reaction. Of 125 mothers, who at no time had any syphilitic symptoms and who at no time received any treatment, 82 (71 per cent.) gave a positive Wassermann reaction. Of twenty-five mothers (Knopfelmacher) who had symptoms, and some of whom had received specific treatment, eighteen (72 per cent.) gave a positive Wassermann reaction. Mothers who give birth to syphilitic children react to the Wassermann test in the same way and to the same per cent., as do those who have acquired syphilis in an early latent stage. One may, therefore, conclude, says Reuben, that mothers who give birth to syphilitic children are themselves syphilitic, whether they have any symptoms or not, and react to the Wassermann test as do those who have acquired syphilis in an early latent stage. Of 123 cases collected, in which the mother's blood was examined within a short time (less than one year) of birth of last syphilitic infant, 110 (90 per cent.) gave a positive Wassermann reaction. Many small collections of cases included in the 123 cases, reported by various investigators, gave a 100 per cent. positive reaction. If the mother's blood is not examined from three to five years of the birth of last syphilitic child only 50 per cent. of these mothers give a positive Wassermann reaction. Of 123 mothers who gave a positive Wassermann reaction, 110 of the infants (90 per cent.) gave a positive Wassermann reaction. Reuben says that the fact that thirteen of these infants did not give a positive Wassermann reaction does not mean that they have not syphilis. A certain per cent. of syphilitics with active lesions do not give a positive reaction, so that absence of a positive Wassermann reaction in these thirteen cases may be explained on that ground.

The great majority of infants of syphilitic mothers are themselves syphilitic. It may be possible that a syphilitic mother (i. e., with latent syphilis) may give birth to a healthy infant, but such a mother never gives birth to children who are immune to syphilis and healthy at the same time. As a corollary of the above, a luetic mother may give birth to luetic (great majority) or to healthy children, but to none that are immune. Infants suffering from hereditary syphilis almost invariably give a positive Wassermann reaction. Of 300 cases examined 298 gave a positive Wassermann reaction. In cases of hereditary syphilis, before any symptoms manifest themselves, the Wassermann reaction may be negative; later, with advent of symptoms, positive. Infants born of syphilitic mothers give a positive Wassermann reaction, though they have no signs nor symptoms of any syphilitic infection. Of forty-four children suffering from late hereditary syphilis, twenty-six gave a positive reaction and eighteen negative Wassermann reaction. When treatment is commenced as soon as the diagnosis is made, 75 per cent. of the cases give a negative Wassermann reaction within one month. When treatment is delayed for six months only 33 per cent. of negative reactions will be obtained. Of thirty-two women in whom syphilis was suspected and whose blood was examined for the Wassermann reaction, twenty-eight (87 per cent.) gave a positive reaction.

The most usual time for these women to abort is after the fourth month, at a time when the placenta is fully developed. This lends further proof to probable infection of the fetus by way of the placenta at this time. At the onset of the disease its virulence is not as great (i. e., first three months) as it is at a later date: it then remains stationary (four to six years), and after a number of years begins to decline. Only 20 per cent. of mothers give a positive Wassermann reaction after birth of first infant; 100 per cent. after birth of fourth, fifth, sixth and seventh infant, and 80 per cent. after eighth infant. Of 904 children born to syphilitic mothers, 768 died within one year. To twenty-three syphilitic mothers 153 children were born; of these, 153 died within one year. An analysis of all the pregnancies of eighty syphilitic mothers shows the following: Number of conceptions, 461; abortions, 115; stillbirths, twenty; premature births, thirty-five; luetic at full term, 133; apparently healthy, eighty-seven; died within one week, seventy-five. It is seen, therefore, that on the average a syphilitic woman conceives about six times, but seldom has more than two and three-quarters living children, unless the number of pregnancies is more than six. Only 28 per cent. of all conceptions of syphilitic mothers result in full term syphilitic infants, and 85 per cent. of these die within one year, so that only 5 per cent. of all conceptions of syphilitic mothers result in syphilitic infants which survive the first year. Adding the 18 per cent. of the apparently healthy infants born to syphilitic mothers to the 5 per cent. of syphilitic infants which survive the first year, there is a total of 23 per cent. of all infants, which, born to syphilitic mothers, survive the first year. Seventy-seven per cent. of all conceptions of syphilitic mothers result in death of the infants within one year of birth. As syphilis causes death of the infants before birth in 50 per cent. of all pregnancies of syphilitic women, 3 to 4 per cent. would more correctly express the per cent. of syphilis as a cause of infant mortality than 1.2 per cent. The blood of every wet-nurse should be examined for the Wassermann reaction. If it is positive she has syphilis and should not be employed; if it is negative the blood of her infant should be tested; if it is positive the mother (wet-nurse) has syphilis, even though her own reaction is negative.

27. Milk Depots for Infants.—It is pointed out by Herrman that premiums to nursing mothers are unnecessary. The results do not justify the expenditure. The money can be used to better advantage in the employment of visiting nurses. Depots which simply distribute milk are of little or no value. Depots which, in addition to the distribution of milk, are under medical supervision, but have no adequate corps of visiting nurses, are of limited value. It is not necessary to distribute modified milk at the depots. From 75 to 80 per cent. of these mothers can nurse their infants for five or more months if properly advised and encouraged from the start. Most of the remainder can buy a quart of bottled milk, and the few who are unable can be much more economically provided with pure milk by other methods. The modification is taught the mother by the visiting nurse. The emphasis should be placed on the importance of breast-feeding, not on the distribution of cow's milk of good quality.

29. Delirium Tremens.—In Lewis' case the intoxication resulted from the ingestion of a cup of cider.

Military Surgeon, Washington, D. C.

June

30 *Medicine, the Benefactor of Mankind. William H. Taft. President U. S. A.
31 A Ready Means of Increasing Marching Capacity. W. W. Reno, U. S. Army.
32 A Psychopathic Malingerer. H. Butts, U. S. Navy.
33 A Recruit Depot Point of View. P. C. Field, U. S. Army.
34 Syphilis: Statistics from Hospital Practice. H. W. Jones, U. S. Army.
35 An Instance of Moro Surgery. W. R. Eastman, U. S. Army.
36 Disposal of the Excrement of Troops While on the March or in Bivouacs of Short Duration. I. W. Brewer, U. S. Army.
37 Filariasis at Fort Hancock, N. J. H. A. Knox, U. S. Army.

30. Abstracted in THE JOURNAL, May 13, 1911, p. 1399.

Archives of Internal Medicine, Chicago

June

38 *Calcification and Ossification. H. G. Wells, Chicago.
39 *Intra-Abdominal Pressures. H. Emerson, New York.
40 *Effects on Blood-Pressure of Intravenous Injections of Extracts of Various Anatomic Components of Hypophysis. D. Lewis, J. L. Miller and S. A. Matthews, Chicago.
41 *Value of Trophic Bone Changes in Diagnosis of Leprosy. A. B. Herrick and T. W. Earhart, Canal Zone.
42 *Experimental Study of Causes Which Produce Growth of Mammary Gland. R. T. Frank and A. Unger, New York.

38. Calcification and Ossification.—Wells summarizes his understanding of the essentials of calcification and ossification as follows: Calcium is carried in the blood in amounts not far from the saturation point, held in solution by the colloids and the carbon dioxid, and existing probably in the form of an unstable double salt of calcium bicarbonate and dicalcium phosphate. In normal ossification, and in most instances of pathologic calcification, the deposition is probably initiated by a process of colloidal absorption causing a concentration of this double salt in the hyaline matrix which is to be calcified, and which has a strong affinity for calcium salts. Reduction in the amount of carbon dioxid in such areas, or some unknown agency, causes a precipitation of calcium salts in this colloid matrix, and permits of further infiltration of dissolved calcium salts whenever the concentration of CO_2 in the fluids may be greater (Hofmeister). There seem to be no essential differences between the processes involved in normal ossification and in most instances of pathologic calcification; any area of calcification may be changed to true bone in the course of time. Calcium salts seem to exert a specific influence on connective tissue cells, causing them to form bone; without this stimulus they cannot form bone, at least not readily and normally.

Exceptional cases of calcification occur in which other processes are involved than in ossification. One of these, "metastatic calcification," occurs whenever from any cause the proportion of calcium present in the blood is so great that it requires the effect of both the colloids and of the CO_2 in maximum concentration to keep it in solution; then the calcium salts are deposited in those points in the body where the CO_2 content of the fluids is least. Another exception is seen whenever there is a considerable splitting of fats, the new-formed fatty acids in some cases combining with calcium to form calcium soaps. These calcium soaps are ordinarily absorbed, but exceptionally, when in large amounts, e. g., calcifying lipoma, etc., the fatty acid radicals may be replaced by P_2O_5 and CO_2. There is no satisfactory evidence, however, that this is a common, much less a usual method of calcification, and there is much evidence that it is not. Calcium deposition seems to depend, alike in normal and in most pathologic conditions, rather on physico-chemical processes than on chemical reactions.

39. Intra-Abdominal Pressure.—Emerson regards it as normal in the animals tested to exhibit a pressure within the free abdominal cavity which is above atmospheric pressure. This true positive intra-abdominal pressure is seen to fluctuate with the respiratory excursion of the thorax and diaphragm. This pressure is seen to depend on the contraction of the diaphragm and the tone or the active contraction of the abdominal wall muscles, including the pelvic floor, acting from relatively fixed points of the thorax, pelvis and vertebral column. Whatever diminishes or abolishes the tone of the diaphragm and abdominal muscles, causes a fall in the positive abdominal pressure. If at the same time the thoracic expansion is active, there will be a fall of abdominal pressure below atmospheric pressure. If at any time the tone or activity of the diaphragm and abdominal muscles is increased, whether the thoracic expansion is diminished or normal, the abdominal pressure will rise above its usual positive points. The tone or contractility of the abdominal muscles must persist or the pressure will fall to atmospheric or below. Distention of the abdomen by fluid or gas raises abdominal pressure The pressure recorded at any point in the abdominal cavity, is equivalent to the pressure at the same moment at any other point in the cavity. The normal moderate positive pressure is better for absorption of fluid from the peritoneal space than atmospheric pressure, and *a fortiori*, a pressure below this, or than a pressure much above atmospheric pressure. Pressure much above the normal intra-abdominal pressure causes a fall in general arterial blood-pressure, due apparently to diminished venous inflow through the inferior cava, and a resultant diminution of systolic output from the left ventricle.

40. Effect of Hypophysis Extracts on Blood-Pressure.—The authors found that extracts of the pars intermedia, when injected intravenously, cause a decided rise in blood-pressure.

The extract does not need to come in contact with the pars nervosa to become active. Extracts of the pars nervosa also give a pressor effect. The primary rise is followed by a fall, which is succeeded by a rise associated with a marked slowing of the pulse. Extracts of the anterior lobe give a primary fall, which is followed in the majority of instances by a secondary rise in pressure above the level existing at the beginning of the experiment. These results confirm Hamburger's findings. The pressor substance is confined to that part of the anterior lobe bounding the cleft which contains groups of cells belonging to the pars intermedia. Ehrmann's test, elicited by Franchini with extracts of the anterior lobe, is explained in the same way. The contents of a cyst of the pars intermedia gave a decided pressor effect. A depressor substance soluble in alcohol, is found in the anterior lobe, the pars intermedia and the pars nervosa. It is not probable that two structures differing so much histologically as the pars intermedia and the pars nervosa would secrete a substance having the same effect on blood-pressure. The authors believe that the pressor substance is secreted by the pars intermedia and that it then passes into the pars nervosa. Whether it passes by way of the blood or the hyaline bodies they cannot say. The latter, however, do not form a striking feature in the histology of the ox hypophysis. The authors have never been able to obtain any pressor effect from extracts of the hypophyseal stalk. If the hyaline bodies pass through this and represent the pressor substance we believe that we should be able to elicit a pressor reaction with extracts of the stalk. In the ox, at least, there is a distinct break in the paths of secretion between the pars nervosa and the ventricular cavity.

41. **Value of Trophic Bone Changes in Diagnosis of Leprosy.**—The pathologic changes in the bones in leprosy occur in three different ways: 1. The true trophic disturbance due to the altered innervation, in which there takes place a simple atrophy or gradual absorption of the bone. 2. An osteomyelitis or periostitis caused by the lepra bacillus. 3. A necrosis or inflammation of either of the above arising from secondary involvement by pyogenic organisms. These processes occur mainly in the fingers and toes and lead to a loss of the digits, from which this form of the disease gets its name of lepra mutilans. Herrick and Earhart maintain that these trophic bone lesions, while not absolutely pathognomonic of the disease, are very characteristic of it. Any condition which might present a similar bone lesion could be differentiated readily by the previous history of injury or disease taken in connection with the examination of the case. Of all the trophic lesions of leprosy these are the most characteristic, and while not occurring in all cases they are found in the majority and very often sufficiently early to be of great aid in the diagnosis. It is in the anesthetic form of leprosy especially that these two forms of bone changes—the progressive distal atrophy and the concentric atrophy—furnish an additional diagnostic sign and one very characteristic of the disease.

42. **Causes of Growth of Mammary Gland.**—Frank and Unger regard the breast changes of pregnancy merely as an exaggeration of the cyclical changes of the sexual cycle, similar to the uterine changes, which occur at regular intervals, in preparation for the function of reproduction. Intra-uterine, prepuberty and puberty growth of the breasts is directly dependent on ovarian function. A cyclical change in the virgin breast occurs under the influence of the ovary. Castration does not cause rapid regression of the cyclical breast hyperplasia. No proof has been offered to show that the fetus or placenta directly produces growth of the breast in pregnancy. Evidence points to the fact that the persistent corpus luteum of pregnancy may produce this breast growth. The factors which favor or cause the persistence of the corpus luteum are unknown. Certain evidence (increase of the breast produced by hydrated mole with fetus, chorio-epithelioma) makes it unlikely that the fetus is at any time the controlling factor. Nature's process is more complicated than the simple chemical stimulus assumed by Starling. As yet hyperplasia of the breasts has not been experimentally produced except by parabiosis, which does not explain the stimulus. Possibly the influence of other glands of internal secretion complicates the problem. Milk secretion is no index of quantitative increase in breast tissue. Under physiologic conditions milk secretion sets in when the ovarian influence is removed—in the new-born after birth; in the puerpera as the corpus luteum of pregnancy regresses; sometimes postoperatively after castration in the virgin (if the breast has been activated by the corpus luteum of menstruation).

Medical Fortnightly, St. Louis

June 10

43 Remarks on Movable Kidney. W. T. Elam, St. Joseph, Mo.
44 Syphilis Versus Accident and Life Insurance. S. G. Burnett, Kansas City.

June 26

45 Cardiac Murmurs and Their Clinical Significance. L. J. Moorman, Oklahoma City, Okla.
46 Open Air Treatment. D. L. Field, Jeffersonville, Ind.
47 In the Twilight. C. E. Warren, North Easton, Mass.
48 The Kiss of Death. G. H. Bogart, Terre Haute, Ind.
49 Treatment of Shock. W. F. Waugh, Chicago.

Boston Medical and Surgical Journal

June 29

50 *Suprapubic Intra-Urethral Enucleation of Prostate. J. B. Squier, New York City.
51 *Value of the Guinea-Pig Test in Genito-Urinary Tuberculosis. J. D. Barney.
52 Forbidding Case of Cancer Involving Tongue, Tonsil and Pharynx Permanently Cured by Radical Excision. M. H. Richardson.
53 *Diabetes Mellitus Treated by Feeding of Calves' Pancreas. W. N. Cowles, Ayer, Mass.

July 6

54 *Use of Coley Toxins in Treatment of Sarcoma. R. M. Green, Boston.
55 Malignant Lymphocytoma of Mediastinum. O. S. Waugh, Montreal.
56 *Does Appendectomy Always Relieve Symptoms? C. L. Scudder and H. W. Goodall.
57 Interpretation of Laboratory Findings. J. W. Fisher, Middletown, Conn.
58 Spina Bifida. B. B. Cates.

50. **Suprapubic Intra-Urethral Enucleation of Prostate.**—The method of enucleation of the prostate which Squier refers to is said materially to aid in reducing the length of time of operation. The details of the method are: Do not seek the most prominent lobe of the prostate and commence enucleating by boring through the bladder mucous membrane at this point, but insert the finger into the internal meatus and break through the roof of the prostatic urethra. Access is at once given to the line of cleavage between the lateral lobes just beneath the anterior commissure. The enucleation is then begun by working the finger upward and forward, freeing the apex of the prostate from its capsule in the region of the triangular ligament. A sweep of the finger frees it in front and on one side, then in like manner on the other, and the prostate is turned into the bladder, with its apex pointing upward, when a little separation from the capsule posteriorly completes its removal. Carried out in this way, with a little care, Squier says, there is practically no danger of injury to the rectum, and the enucleation is rapid and complete. The resulting wound in the bladder is on a higher level than if the bladder mucous membrane had been incised over the most prominent prostatic lobe, and during the subsequent drainage of the bladder is less liable to be constantly bathed in urine. The prostate having been removed from the bladder, a double drainage tube, whose total caliber is about No. 32 F., is inserted into the bladder wound and sutured at its upper angle by a chromic gut stitch, allowing the drainage tube to project into the bladder three-quarters of an inch. The lower angle of the bladder incision is accurately closed up to the tube with three chromic gut sutures. The abdominal wall is closed with three or four figure-of-eight silkworm gut sutures, one loop of the stitch approximating the fascial plane and the other loop the skin. As soon as the drainage tube has been sutured into position, hot saline irrigation of the bladder is commenced and continued during the remainder of the operation through this double tube. By the time the abdominal wound has been sutured all active hemorrhage will be practically checked. Squiers claims that prostatectomy carried out in this manner can be completed in five or six minutes, and the patient need

be completely under the anesthetic but two or three. By the time the dressing is applied he is usually well out of the influence of the anesthetic.

51. **Guinea-Pig Test in Genito-Urinary Tuberculosis.**—The total number of guinea-pigs inoculated in the Massachusetts General Hospital during a period of two years was 252. The test was positive in sixty-seven cases, proved in fifty-eight cases, unproved in nine cases. The test was negative in 158 cases, proved in 139 cases, unproved in forty-six cases. Total number of tests proved, 197 cases. Test negative, pathologic report or autopsy positive, two cases; percentage of error in guinea-pig test, 1.01. Test positive, no tuberculosis of urinary tract, one. The author regards the guinea-pig test for tuberculosis, when carefully done, as by far the most delicate and invariably accurate diagnostic weapon at our disposal and that a negative test is of indisputable value.

53. **Diabetes Mellitus Treated by Feeding of Calves' Pancreas.**—Fortunately, the patient in this instance was fond of rare and raw meat and ate from one to six uncooked pancreases daily, averaging over three. He cut them into pieces about the size of an oyster and bolted the pieces whole. He began at once to improve, his appetite returned, his strength increased and he gained in flesh. His diet was not much restricted, nothing but sugar was forbidden. In a few days he was out of bed, in two weeks he was out of doors and weighed 164 pounds, which was a great gain from his lowest weight. Two weeks later he weighed 180 pounds, a gain of 16 pounds in fourteen days. The thirst was lessened. The urine had fallen to 2 to 3 quarts in twenty-four hours; specific gravity, 1028 to 1030. It was never found sugar-free. His health continued to improve, he became strong and ruddy and said that he had never felt better. He continued to eat pancreas and felt well enough to engage in active business.

Early in March, 1897, he ate some stale pancreas, vomited, became disgusted with it and never ate another. Soon after, his business venture proved a failure and the diabetic symptoms gradually returned, so that in June, 1897, he had lost much of his gain in flesh and strength; urine 7 to 8 quarts; specific gravity, 1035 to 1038. About July 1 he developed an enormous carbuncle of the neck and upper part of the back and died July 11, 1897.

An autopsy showed the thoracic and abdominal organs, except the pancreas, normal in gross appearance. The pancreas was represented by a fibrous cord about one-fourth the size of the normal gland. Unfortunately, post-mortem changes made it impossible to discover anything about the minute changes in the specimen. Cowles has tried the same treatment in several other cases of diabetes without benefit, but no other patient has been able to eat such a quantity of raw pancreas or continue eating it as long.

54. **Use of Coley Toxins in Sarcoma.**—In the series reported by Green there were twenty cases; thirteen cases occurred in males, seven in females. The average age of the males was 34 years, of the females 32. The series presents a wide diversity in location and type of tumor. The right side of the body was involved eleven times, the left nine—figures which tend to show the symmetrical distribution of sarcoma rather than its alleged predominence on the right. In seven cases the tumor was of the round-cell type, in three spindle-cell, in the remaining ten of varying types or not stated. In four cases the thigh was involved, in three the upper jaw, in two the cervical lymph-nodes; the remainder were scattering. From a study of these cases the following conclusions are drawn by Green: The use of Coley toxins alone in the treatment of sarcoma is warrantable only in obviously inoperable cases and then as a last resort. As an adjunct to surgery in the treatment of sarcoma, or as a prophylactic against recurrence, the use of Coley toxins is advisable, though by no means of definitely established value.

56. **Appendectomy.**—There were 640 cases of appendectomy in the series here reported; 178, or 28.8 per cent., of the patienst were females; 462, or 72.2 per cent., males. The whole number of hernias following appendectomy was sixty-five, or 10 per cent. Twenty-three, or 35.4 per cent., in females and forty-two, or 64.6 per cent., in males. The whole number of drained cases was 309, or 48.2 per cent. The whole number of undrained cases was 331, or 51.8 per cent. Fifty-two patients, or 17 per cent. of the 309 drained cases, had hernia in the cicatrix of operation; sixteen were females and thirty-six were males. Thirteen patients, or 3.9 per cent. of the 331 undrained cases, had hernia in the cicatrix of operation. Seven were females and six were males. The number of patients who reported from one to five years after operation was sixty-one. The number reporting from five to fifteen years after operation was 560. The number reporting from fifteen to twenty-two years was eighteen. Condition reported as good, very good, excellent, well, perfectly well, O. K., etc., 606 patients, or 94.6 per cent. Of these 606 patients, ninety-five reported health better than before operation. Condition reported as poor after operation, twenty-six, or 4.6 per cent. Condition reported as poor health before and after operation, eight. In these reports were mentioned two right inguinal hernias, one double inguinal hernia and one case with both inguinal rings enlarged and with impulse on cough. There were four cases of phlebitis following operation. There were nine cases reported as nervous after operation.

From the analysis Scudder and Goodall believe certain important facts appear. The drained cases are more likely to have a hernia in the cicatrix following operation. The undrained cases are less likely to have a hernia in the cicatrix following operation. It may be concluded in general, then, he says, that in this series of appendectomies the operation benefited the patient, that comparatively few unnecessary operations were done and that there were no distressing sequelæ.

Virginia Medical Semi-Monthly, Richmond

June 9

59 *Preventive Medicine—What It Has Done and What It Can Do If the State Recognizes Its Obligations to the Public J. A. White, Richmond.
60 Surgical Aspects of Typhoid. G. T. Vaughan, Washington, D. C.
61 Medical Aspects of Exophthalmic Goiter. A. L. Tynes, Staunton.
62 Venesection—Its Uses and Abuses. C. B. Conklin, Washington, D. C.
63 Conservatism in Ovarian Operations. H. S. MacLean, Richmond.
64 Relation of the Tonsil to Systemic Diseases. G. O. Sharrett, Cumberland, Md.
65 Hemoglobinuric Fever. W. B. Barham, Newsoms.

59. Abstracted in The Journal, April 8, 1911, p. 1063.

Lancet-Clinic, Cincinnati

July 1

66 *Tuberculosis of Bovine Origin in Children, and Its Prevention. William H. Peters, Cincinnati.
67 Tuberculosis. S. B. Helbert, Cincinnati.
68 Some Phases of Acute Appendicitis. H. J. Whitacre, Cincinnati.

66. **Tuberculosis of Bovine Origin in Children.**—Peters thinks that the greatest value of certified milk to a community is its educational feature, teaching the people to appreciate a clean milk supply and then they demand a better general supply. It gives them a basis for comparison. It promotes a feeling of security in the physician, enabling him to prescribe a clinical milk, pure and of known content, rather than tolerate an unwholesome raw milk or pasteurized dirty milk. As an institution of the profession, certified milk stands out preeminently. Professional control, backed up by public opinion and professional spirit, are the fundamentals for every clean milk supply.

Medical Record, New York

July 1

69 Medical Aspects of Modern Life Insurance. F. L. Hoffman, Newark, N. J.
70 *Mechanism of Presystolic Murmur. T. S. Hart, New York City.
71 *Radical Frontal Sinus Operations. J. E. MacKenty and G. H. Cocks, New York City.
72 Fatality of Text-Book Hydrotherapy. S. Baruch, New York City.
73 *Treatment of Pulmonary Tuberculosis Based on Assumption that the Dietetic Cause of the Disease Is Lime Starvation. J. F. Russell, New York City.
74 Technic of Urethral Examinations. W. S. Reynolds, New York City.

July 8

75 *Decapsulation of Kidney in Treatment of Chronic Bright's Disease. J. Tyson, Philadelphia.
76 Proper Attitude of Corporation to Its Injured Employees. J. F. Culp, Harrisburg, Pa.
77 Drink Habit, with Special Reference to Office Treatment. C. A. Rosenwasser, New York City.
78 Clinical Observations in Some Cases of Prostatic Obstruction. J. Pedersen, New York City.
79 Treatment of Neuritis with Hot-Air Douche. L. Stieglitz, New York City.
80 *Case of Ovulation Without Menstruation. M. J. Siegelstein, New York City.

70. **Mechanism of Presystolic Murmur.**—Hart believes, from a careful study of four cases of *presystolic murmurs*, that in certain cases the short crescendo murmur preceding the first sound of the heart in mitral stenosis is *not due to auricular activity*. The four cases described presented well marked clinical signs of mitral stenosis. There was at *no time* an absence of the presystolic thrill and murmur in any of the cases. *The graphic records showed the ventricular form of venous pulse and an entire absence of evidence of gross auricular contraction.*

71. **Radical Frontal Sinus Operations.**—The authors regard Knapp's operation as the type of operation best adapted to the cure of sinus disease with the least external deformity.

73. **Treatment of Pulmonary Tuberculosis.**—It is pointed out by Russell that the highest per cent. of apparent cures in all patients treated at sanatoria is 34, the lowest 5.07, while at the Thompson Street Dispensary the per cent. is 55.3. The sanatorium showing the highest per cent. of apparent cures in all cases is the New Mexico Cottage Sanatorium, where the average cost per patient for nine month's treatment is said by the physicians-in-chief to be nearly $1,000. Russell claims that all ambulant cases should be treated in dispensaries and the work of sanatoria restricted to the care of advanced cases with continuous fever or complications which necessitate rest.

75. **Treatment of Chronic Bright's Disease.**—Tyson presents the histories of four cases in which decapsulation of the *kidneys was done for the cure of* Bright's disease, with excellent results as far as the improvement of health and the *ability to work* was *concerned*. *In none* of them did the albumin entirely disappear.

80. **Ovulation Without Menstruation.**—Siegelstein's patient was a primigravida, a well developed and husky girl of the blonde type, 20 years of age, not anemic. All her measurements were normal and she was delivered of a normal child the same day. She had only menstruated once at the age of 17. for about three days, not profusely, but with cramp-like pains in the abdomen and back. Since that time she has never menstruated nor has she had any molimina during the expected period and she did not realize that she was pregnant even after the fourth month, when her abdomen was already slowly enlarging.

Chicago Medical Recorder

June

81 Social Service Work in Hospitals. R. C. Cabot, Boston.

Journal of South Carolina Medical Association, Charleston

June

82 Typhoid Fever: Alkaline Treatment. Thirty-Five Consecutive Cases. W. T. Lander.
83 Septicemia. W. B. Sparkman.

New York Medical Journal

July 1

84 *Case of Pseudochylous Ascites. F. P. Henry, Philadelphia.
85 Operation of Choice in Carcinoma of Rectum. J. A. Blake, New York City.
86 Primary Cholecystectomy vs. *Cholecystotomy*. H. Lilienthal, New York City.
87 *Perforating Duodenal Ulcer with Report of Cases. J. A. Lichty, Pittsburg.
88 *Alcohol Injection in Trifacial Neuralgia. F. C. Keller, New York City.
89 Metastatic *Growths of Central* Nervous System. B. Sachs, New York City.
90 Clothing and Re*gulation of* Body Temperature. H. F. Wolf, New York City.
91 Comparative Study of Case of Paresis and of Tabes Dorsalis After Administration of Salvarsan. A. L. Wolbarst, New York City.
92 Academy of Medicine in Paris. F. Dowling, Cincinnati.
93 Prolongation of Heart Life. W. F. Waugh, Chicago.

84. **Pseudochylous Ascites.**—The ascitic fluid in Henry's case contained serum-albumin, serum-globulin and a small amount of mucin. Very little fat was present. Lecithin was present in notable amount and in association with globulin caused the opacity of the fluid. Traces of sugar, probably a dextrose, were noted. The ash contained in a total of 0.7892 gram per 100 c.c., 0.5823 gram of chlorid (calculated as sodium chlorid); phosphates and sulphates.

As determined by the analysis, therefore, the fluid belongs *to the class of* "pseudochylous fluids."

87. Abstracted in The Journal, Oct. 29, 1910, p. 1580.

88. ***Alcohol Injection in Trifacial Neuralgia.***—A successful injection, or series of injections, says Keller, is followed by relief for about the same length of time as that following a first resection of a peripheral nerve. Reinjection for recurrence gives a longer period of relief than repeated resection. In cases in which it might be deemed advisable to do a resection of the Gasserian ganglion, or the Frazier operation, the injection would no doubt be a valuable preliminary treatment to put the patient in better condition for the radical operation.

Journal of Ophthalmology and Oto-Laryngology, Chicago

June

94 Acquired Ametropia. H. B. Gratiot, Dubuque, Iowa.
95 Anatomic and Physiologic Relation Between the Eye and Nose. A. H. Andrews, Chicago.

Louisville Monthly Journal of Medicine and Surgery

June

96 Surgical Aspect of Malignant Disease. H. H. Grant, *Louisville*.

American Medicine, New York

June

97 Analytical and Statistical Study of Bowel Diseases in Infancy and Childhood. S. G. Gant, New York City.
98 Present Status of Cranial Surgery. E. Sachs, New York City.
99 Bronchoscope, Esophagoscope and Gastroscope in *Diagnosis* and Treatment. P. Schoonmaker, New York City.
100 Treatment of Puerperal Eclampsia. G. L. *Brodhead, New* York City.
101 Indications for Abdominal Cesarean Section, Technic of Operation. R. McPherson, New York City.
102 Treatment of Abortion. B. H. Wells, New York City.
103 Treatment of Atrophic Rhinitis. S. Goldstein, *New York City.*
104 Extrauterine Pregnancy, with Report of Cases Operated On Before Primary Rupture. N. G. Bozeman, *New York City.*

Laryngoscope, St. Louis

June

105 Medico-Educational Problem of *Deaf Child. G. Hudson-*Makuen, Philadelphia.
106 Removal of Scissor-Blade from Ear Three Years and Three Months After Its Introduction. O. J. Stein, *Chicago.*
107 Serous Labyrinthitis and Extra-Dural Abscess; Operation; *Recovery.* E. T. Senseney, St. Louis.
108 Fetid Necrosis *Following the Simple Mastoid Operation.* H. Friedenwald, Baltimore.
109 Case of Lymphosarcoma of Pharynx, with *Unusual Lymphatic Involvement. O. J. Stein, Chicago.*
110 Severer Types of Tonsillar Infection. D. S. Dougherty, New York City.
111 Some *Indications and* Contra-Indications for Removal of Faucial Tonsils. J. B. Greene, Asheville, N. C.
112 Septic Infections of the Mouth and Throat. M. *D.* Ledermann, New York City.
113 Report of Over 400 Ear, Nose and Throat Patients Treated at the University Hospital in *Manila. H.* Winsor, Phila*delphia.*
114 Treatment of Ozena by Submucous *Injection of Paraffin* Into Nasal Septum; Review of Other Methods. H. Kahn, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. *Clinical* lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

June 24

1 Significance of Pus in the Anterior Chamber. J. H. *Parsons.*
2 Salvarsan in Mercury and Syphilis. H. C. French.
3 **The Wassermann* Reaction in Relation to Cancer. A. Foerster.
4 Case of Appendicitis Illustrating the Necessity of Early *Operation.* D. D. Malpas and Ph. de Lostalot.
5 Chloretone in Sea-Sickness. D. A. Welsh.
6 Hydatid of the Uterus. A. E. Giles.
7 Infantile Paralysis in Girl Aged Five Years. F. Hernaman-Johnson.
8 National Insurance Bill and Preventive *Medicine.* H. M. Richards.
9 Sir Charles Bell and Functions of the Fifth Nerve. A. D. Waller.
10 Motoring Notes. C. T. W. Hirsch.

3. **Wasserman Reaction and Cancer.**—The *assumption that* the serum of a patient affected with *cancer* might be altered in a manner similar *to that* which we must admit for syphili-

tic serum is held to be rational by Foerster. He points out that from the clinical point of view the similarity of some lesions, such as some ulcerations of the palate and of the tongue, and the frequent history of syphilis in cases of lingual cancer would justify such an investigation. A reliable serodiagnosis of cancer would be of the utmost value for the differentiation of abdominal ailment. Following these ideas, he undertook: (1) To test a series of cancer cases by means of the Wassermann reaction in order to find out how often syphilis could be traced; (2) to prepare an extract from purely cancerous material to determine its dosage, and then to test a series of normal, cancerous and syphilitic serums with this extract. The technic used was the one practiced and taught by Wassermann. The cases of lingual syphilis examined comprised practically all types: mucous plaques, glossitis, leucoplakia and ulcers. Every one gave a positive reaction. Treatment had practically no influence on the reaction. The date of infection lies between two and forty years back, according to the patient. For the preparation of an extract from cancerous material several points were observed. First, it was ascertained, as far as possible, that the patient who yielded the material never had syphilis. Second, the growth had to be in good condition and of sufficient size. Third, no normal tissue of the organ from which the growth was taken was to be present in the material to be used for the preparation of the "cancer extract." Thus most of the material available had to be rejected. An aqueous extract was made in the same way as the aqueous antigen extract of Wassermann is prepared. Another extract was made with 95 per cent. alcohol and was incubated at 60 C. for several hours. These extracts were then tested and their dosage was determined. The results with the alcoholic extract were so unsatisfactory that it was cast away.

The further experiments were made with the aqueous extract only, 0.2 c.c. and 0.25 c.c. It was tested with syphilitic, cancerous and normal serums, only inactivated serums being used. Purposely, some old serums were also tried. Repeated tests were made with several serums on different days and under slightly modified conditions. The results obtained with the cancer extract are very much the same as those obtained with the standard antigen. Not only was the reaction negative with a serum derived from a patient affected with rectal carcinoma, but every cancer case gave a negative reaction with the cancer extract. Neither the site of the tumor nor its histopathologic character had any influence on the test. Only syphilitic serums were positive; but here, again, the cancer extract is inferior.

Foerster concludes from these experiments that as an active etiologic factor syphilis plays a small rôle in cancer, if any at all. Epithelioma of the tongue is far more frequently preceded by syphilis than any other form of cancer. The right to place lingual cancer among the parasyphilitic lesions, next to tabes and general paralysis, must be questioned. It is possible to prepare an antigen extract for the Wassermann reaction from purely cancerous material. A serodiagnosis of cancer on the lines of the Wassermann reaction is at present not possible.

Practitioner, London

June

11 *Right-Sided Abdominal Pain in Women. J. Bland-Sutton.
12 Current Theories Regarding Arteriosclerosis. J. Cowan.
13 Review of Treatment by Salvarsan. A. Manuel and H. W. Bayly.
14 *Complications of Ulcer of the Stomach and Their Treatment. [illegible]
15 Psychoses. F. S. Palmer.
16 Mellitus and Glycosuria. R. T. Williamson.
17 *Combined Cardiac and Pyloric Stenosis. T. G. Moorhead.
18 Recent Work in Thoracic Surgery. H. Upcott.
19 *A Case of "Cyanosis Enterogenous." T. A. Matthews.
20 Hints on Refraction. P. A. Harry.
21 *An Ocean Sanatorium. A. V. Elder.

11. Right-Sided Abdominal Pain in Women.—For several years it has been Bland-Sutton's custom in dealing with persistent right-sided abdominal pain, in which it is impossible after careful clinical examination to decide which organ is at fault, and in which the patient's condition is such as to justify operative interference, to carry out the following plan: After the usual preparations he makes a fairly free incision in the line of the right linea semilunaris and systematically examines the organs on the right side of the abdomen. This incision allows him to examine the pelvic organs including the ureters, the cecum, vermiform appendix, kidney, gall-bladder and ducts, the pancreas, duodenum, pylorus and liver. It also has the advantage of admitting the surgeon to deal with conditions requiring surgical treatment in almost any of the organs mentioned, and it is by no means uncommon to find two diseased conditions coexisting and either or both of them may be dealt with through the same incision. It has occasionally happened that in some patients nothing has been seen to account for the pain, and, in a few, unexpected pathologic conditions have been found. Occasionally an operation has revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and by the medical attendant. Bland-Sutton says that years ago he came to the conclusion that no young women should be labeled hysterical simply because our crude methods of clinical investigation failed to indicate the cause of the painful sensations.

14. Gastric Ulcer.—Rowlands' opinion is that cancer of the stomach often starts in a simple chronic ulcer. He says that a careful study of the history of patients with gastric carcinoma strongly supports this view. The history of indigestion or of ulceration for some years is common in these cases. A man gave a history of indigestion of about two years' duration. While under treatment by lavage and dieting he lost 28 pounds in a fortnight and became very anemic from chronic hemorrhage. At the operation it was difficult to be certain whether a large ulcer in the pyloric region was innocent or malignant but a suspicious nodulation was noticed on the peritoneal surface at one side of the ulcer. The greater part of the stomach was therefore removed. Microscopic sections taken from several parts of the edge of the ulcer showed simple inflammatory change, but at one point undoubted carcinoma was seen. The man is now well and able to earn his living, about fifteen months after the operation. It is interesting to note that the small cardiac remainder of his stomach has enlarged to a great extent, as shown by a recent bismuth and Roentgen-ray examination. Since the operation the man has become much stouter than he has been for years. In another case a man had had the classical symptoms of gastric ulcer for three years. At the end of this time pyloric obstruction called for operation. Pylorectomy was performed. To the naked eye the ulcer was a typical simple ulcer, and most of the sections taken showed innocent disease, but those from one edge showed carcinoma. The carefully observed course of the disease in these patients, among others, clearly points to the recent supervention of malignant disease. Rowlands says that this is a powerful argument for more careful and prolonged medical treatment of acute ulcer as soon as it is diagnosed and especially for the earlier surgical treatment of chronic ulcer which has resisted medical treatment.

17. Combined Cardiac and Pyloric Stenosis.—The patient in Moorhead's case, aged 29, complained of extreme distention of the abdomen and of vomiting blood. The abdominal swelling had set in six weeks previously and the vomiting a few days before admission. There was no history of previous illness of any sort. The diagnosis arrived at after complete examination was that of peptic ulcer at the pylorus, the abdominal enlargement being due to flatulent intestinal distention. Suitable treatment was prescribed and everything was apparently going well, all pain, vomiting and flatulence having completely subsided, until the tenth day after admission, when there was sudden development of severe abdominal pain, and Moorhead concluded that perforation had occurred. The abdomen was opened and a large ragged perforation, situated in the anterior wall of the pylorus was found, with stomach contents widely diffused throughout the abdomen. After the ulcer had been sewed up it was found that the pylorus was practically completely occluded and in consequence a posterior gastro-enterostomy was performed. At the operation the stomach was found to be but little, if at all, dilated. An uninterrupted recovery was made and the patient left the hospital quite well a month later. Prior to her leaving a test-meal was given and a stomach-tube was passed without difficulty for the purpose of removing the meal. The analysis showed nothing abnormal. Five months later Moorhead again saw the patient. She was now complaining of difficulty in swallowing and of vomiting back her food almost immediately after she had taken it. The passage of an esophageal bougie demonstrated the presence of a stricture of the esophagus 15 inches from the teeth and an examination of the food which she regurgitated showed the absence of gastric ferments and of hydrochloric acid. The existence of an esophageal stricture was further confirmed by the administration of a bismuth meal. The stricture was regarded as secondary to a peptic ulcer at the cardiac end of the esophagus. A valvular gastrostomy was made; the patient developed septic pneumonia and died five days later. The septic condition was almost entirely limited to the lower lobe of the left lung —a fact that suggests that infection took place by direct extension from the dilated esophagus.

19. **A Case of "Cyanosis Enterogenous."**—In addition to the fact that no abnormality could be detected in the chest in Matthews' case, the character of the cyanosis was quite unlike that caused by disease of heart or lungs. Neither was the color like that caused by Addison's disease nor cachexia, although the general appearance was anemic. The blood, when examined, showed no deficiency in amount of hemoglobin nor in the number of corpuscles, but the spectroscope proved that methemoglobin was present and further that this abnormal product was intracorpuscular. The patient had been taking two of the drugs which can cause methemoglobinemia, viz., *potassium chlorate* and acetphenetidin; but the possibility of the first named being to blame in this case was disproved by the observation that the pigment was inside the corpuscles themselves, while the steady uniformity of the color during the earlier months practically puts out the secret taking of acetphenetidin. The relationship of the cyanosis to the digestive organs was emphasized by the variations in color so regularly seen during the latter third of the illness, when cyanosis deepened with the increased flow of blood to the abdominal viscera after a meal and lessened when blood had been forced out of the abdomen by the violent muscular efforts of retching. Treatment was based on this observation and the patient recovered.

21. **An Ocean Sanatorium.**—After several years' experience afloat in large steamers providing a varied field of practice, Elder has come to the conclusion that the highest beneficial results possible are not obtained under the facilities existing for the sending of patients to undergo the sea-cure. The main reason for this is to be found in the *general incompatibility of the patients' surroundings*—in other words, absence of the accommodation and everything implied by that term requisite for invalids. He pleads for a vessel entirely devoted to the care of the sick. In other words, a floating hospital and convalescent institution combined, differing only from similar therapeutic institutions on land in the peripatetic nature of its location.

Medical Press and Circular, London

June 21

22 Bulbar Paralysis. F. S. Palmer.
23 Experiences with Salvarsan. A. Blayney and P. Dempsey.
24 Lesions of the Vermiform Appendix and the Female Pelvic Organs. D. Duff.
25 Strangulated Inguinal Hernia. T. R. MacDonald.

Clinical Journal, London

June 21

26 *Rational Treatment of Some Common Symptoms in Infancy. E. Pritchard.
27 Surgical Treatment of Tumors of the Breast. A. Edmunds.
28 Life Histories of Fifty Patients with Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.

26. **Treatment of Symptoms in Infancy.**—Because the stock cough mixture is given indifferently in the early stages of congestion before there is any mucous secretion, in the second stage when the secretion is free, and in the third stage when the secretion has become mucopurulent, Pritchard employs three mixtures adapted to the pathologic indications of the three successive stages mentioned. The formulas of these three mixtures are as follows:

No. 1

	Gm. or c.c.		
℞ Potassii citratis		2	gr. iij
Ammonii iodidi		066	gr. j
Vini ipecacuanhæ		13	♏ij
Tincturæ camphoræ compositæ		2	♏iij
Syrupi aurantii		6	♏x
Aquam ad	4		ʒj

No. 2

	Gm. or c.c.		
℞ Ammonii carbonatis		066	♏j
Oxymellis scillæ		33	♏v
Vini ipecacuanhæ		13	♏ij
Syrupi tolutani		4	♏vi
Aquam ad	4		ʒj

No. 3

	Gm. or c.c.		
℞ Ammonii carbonatis		066	gr. j
Terebeni		13	♏ij
Syrupi tolutani		33	♏v
Pulveris acaciæ		13	gr. ii
Aquam ad	4		ʒj

The formula for the mixture he employs in whooping-cough is as follows:

	Gm. or c.c.		
℞ Potassii nitratis		06	gr. j
Ammonii bromidi		13	gr. ij
Ammonii iodidi		06	gr. j
Ammonii carbonatis		03	gr. ½
Tinctura belladonnæ		13	♏ij
Vini ipecacuanhæ		06	♏j
Aquam chloroformi ad	4		ʒj

As the case progresses he freely increases the tincture of belladonna and the ammonium bromidi.

Indian Medical Gazette, Calcutta

May

29 Hematelkona: Significance of Blood Picture in Disease. A. W. Robertson.
30 Diphtheria in India. C. J. Fox.
31 Leukoderma in Burma. L. G. Fink.
32 Dilatation of Anus as Means of Resuscitation in Chloroform Anesthesia, with Suggestion for Its Use in Drowning. W. D. Keyworth.
33 Peculiar Pigmentary Condition. A. C. Munro.
34 *Leprosy, Its Bacteriology and Treatment. T. S. B. Williams.

34. **Leprosy.**—Williams produced two types of organism which are at first glance widely different: (1) A diphtheroid non-acid-fast organism, which is really a streptothrix. In a fairly typical culture of this organism one sees a few acid-fast bacilli, similar non-acid-fast dotted bacilli and large bacilli; filaments with terminal clubs, etc., in fact, the so-called involution forms of a diphtheroid organism and (2) an acid-fast streptothrix, generally similar to that obtained by Rost and Deycke. Williams says that to the observer unaccustomed to the vagaries of the streptothricæ, these two types of organism grown by him seem so absolutely distinct, as not to be worth consideration as the same. At one time he could not transfer the non-acid-fast form into the acid-fast form at will. However, by using pure culture of amebas he was able to show the effects of symbiosis. In a very short time he was able to demonstrate where a non-acid-fast diphtheroid bacillus culture was added to pure amebas, that, at the end of about forty-eight hours, the amebas were full of bacilli, which had become acid-fast. Thus it was *demonstrated that the non-acid-fast organism*, which in Williams' *opinion* was descended from acid-fast lepra bacilli, could regain its acid fastness in association with a living cell. It was further *noticed* that *the association* with *the amebas* had a distinct influence on the bacilli outside the cells. Many of those outside had become entirely acid-fast, and *in* others the dots had become acid-fast. Another strong piece of evidence connecting up the non-acid-fast diptheroid organism with the final acid-fast form, was the evidence provided by *old* cultures (two to three months *old*) *of the non*-acid-fast organism. Here it was found *that* the dotted bacilli tended to die out, while the so-called involution forms, which are in reality only broken-off portions of streptothrix, had become more prominent and in many cases *distinctly acid-fast*. The acid-fast streptothrix is Gram-positive. *In the* diphtheroid bacillus phase it is only *the involution* forms which are definitely *Gram-positive*. The dotted bacilli appear to vary. It will be seen then that Williams' *claim* is to have grown the non-acid-fast organism first and to have converted it into an

acid-fast organism. A vaccine prepared from the streptothrix has been used in fifteen cases with very gratifying results, although Williams refuses to consider the patients cured.

Dublin Journal of Medical Science

June

35 *Etiology and Treatment of Diabetes Mellitus. W. M. Crofton.
36 Modus Operandi of Vaccine Treatment. G. A. Stephenson.

35. **Diabetes Mellitus.**—Crofton does not think it possible in the majority of cases to cure diabetes, because when the patient comes under treatment the cells producing the essential substances are so far damaged that they cannot be restored, but he does think it possible to prevent, at any rate in many cases, the disease getting worse, and by means of giving the affected substance to enable the patient to live an ordinary life on an ordinary diet. It seems the patients who can recover completely are young people whose glycolytic mechanism can be restored if tided over the acute phase, just as acute nephritis can be completely recovered from.

Annales des Maladies des Org. Génito-Urinaires, Paris

May 15, XXIX, No. 10, pp. 865-960

37 Spontaneous Recovery in Acute Pyelitis. E. Chambard.
38 *Access to the Kidney. (Procédé rapide pour aborder le rein.) F. Cathelin.
39 Case of Cystic Ureteritis. D. Angler and C. Lepoutre.
40 Transvesical Prostatectomy on Patient Cystostomized for Nine Years. M. Patel and G. Cotte.

38. **Access to the Kidney.**—Cathelin utilizes the two weak points in the abdominal wall in the lumbar region, the triangle of Petit and Grynfelt's irregular quadrilateral gap in the muscular wall which are easily palpated by the yielding of the wall. Grynfelt's gap is bounded in front by the posterior border of the internal oblique muscle, behind by the external border of the iliocostalis, above by the twelfth rib in front and behind by the inferior border of the inferior serratus posticus. The floor of the opening is formed by the thin aponeurotic membrane of the fascia transversalis. This gap in the muscular wall is just over or below the inferior pole of the kidney and thus permits ready access to it. Another point in Cathelin's technic is that he clamps the vessels just as they enter the kidney, *not* above. He has not had a mishap in his fifty-nine operations on the kidney in the last eighteen months, all the patients promptly recovering. Petit's triangle is in the first layer of the muscles of the back, but Grynfelt's irregular gap is in the deep layer. The article is illustrated.

Archives des Maladies du Cœur, Etc., Paris

June, IV, No. 6, pp. 337-416

41 Pulsation in the Pulmonary Veins with Mitral Insufficiency. (Pouls veineux du poumon dans les lésions mitrales.) G. Buicliu and D. Danielopolu.
42 The Atrioventricular Bundle. (Le faisceau atrio-ventriculaire dans le cœur humain.) G. H. Monrad-Krohn.
43 The Blood-Plate Count in Health and Disease. (Etude clinique et expérimentale sur les variations numériques des globulins.) M. Aynaud.

Archives de Médecine des Enfants, Paris

June, XIV, No. 6, pp. 401-480

44 *Hepatization of the Lung in Young Children. (L'hépatisation lobaire dans la première enfance.) A. d'Espine and Mallet.
45 Curable Forms of Acute Tuberculosis in Children. E. C Aviragnet and L. Tixier. Commenced in No. 5.
46 *Resistance to Muscular Fatigue of Children Under Two and One-Half Years. A. Lesage and H. Collin.
47 *Atypical Measles. (Cas anormaux de rougeole.) G. Baldini.

44. **Pneumonia in Children.**—Mallet and d'Espine report four cases of wandering pneumonia in children between 5 and 7, the focus of pneumonia shifting around during the week the disease lasted. In three other cases the children were between 8 months and 2 years old and bronchopneumonia was accompanied by lobar fibrinous pneumonia followed by a follicular enteritis, the latter proving fatal. In two other similar cases the intestinal phase failed to develop and the infants recovered. The exceptional gravity of lobar hepatization in infants is probably due to generalization of the pneumococcus infection, with complications on the part of the kidneys or intestines.

46. **Infants' Resistance to Muscular Fatigue.**—Lesage and Collin state that they found it possible to have children under 2½ years hold their arms extended above their heads for a long time without any signs of fatigue. If the arms are raised and held in this position the child continues to hold them thus alone while its attention is diverted. Some of the children held their arms up thus spontaneously for five, twelve and even for thirty minutes without any sign of weariness or discomfort. They seem to forget all about their arms. Adults, idiots and imbeciles lack this resistance to fatigue and Lesage and Collin theorize to explain it in infants as due to the phase of the evolution of the nervous system at this age.

47. **Atypical Measles.**—In one of the five severe and atypical cases reported the measles was of a hemorrhagic form. In another case the measles seemed to be mild, but the temperature ran up to 41.3 C. (106.34 F.). In another case the measles developed during an attack of pneumonia, but the child recovered; a sister of this child contracted the measles which came on with epistaxis, a purpuric eruption and fever above 40 C. (104 F.) but ran a mild course.

Bulletin de l'Académie de Médecine, Paris

May 30, LXXV, No. 22, pp. 625-640

48 Dragging Down and Twisting of the Larynx as Sign of Aneurysm of the Arch of the Aorta. (Abaissement, déviation et latéro-torsion du larynx comme signe d'anévrisme de la crosse aortique.) E. Boinet.

June 6, No. 23, pp. 641-654

49 Progress of Hygiene in West Africa Under French Rule. Wurtz.

Presse Médicale, Paris

June 14, XIX, No. 47, pp. 493-500

50 Cysts and Cancer of the Nipple. (Kystes cliniquement uniques et cancer de la mamelle.) P. Reclus.
51 Technic of Interpretation of Sphygmomanometer Findings. (Les conditions essentielles des observations sphygmomanométriques.) A. Martinet.

Semaine Médicale, Paris

June 21, XXXI, No. 25, pp. 289-300

52 Present Conception of Sugar Destruction in the Body. (Etat actuel de la question de la glycolyse.) R. Lépine.

Archiv für Gynaekologie, Berlin

XCIV, No. 1, pp. 1-292. Last indexed May 20, p. 1516

53 Vessels in Uterus During Pregnancy. (Die Gestationsveränderungen der Uterusgefässe.) O. Büttner.
54 *The Phenomena of Pregnancy. (Ueber Gestationserscheinungen.) F. A. Kehrer.
55 Bacteriology and Histology of Febrile Myoma of the Uterus. A. Sitzenfrey.
56 *Microscopic Retrospective Diagnosis of a Pregnancy. (Diagnose der abgelaufenen [illegible] G. Schickele.
57 Rights of the Unborn [illegible] in der Bewertung des ungeborenen Kin[illegible]
58 *Puerperal and Postoperative Thrombosis and Embolism. H. V. Klein.

54. **Phenomena of Pregnancy.**—Kehrer discusses in particular the internal secretion of the ovaries and its influence on the uterus, etc., showing that the phenomena of pregnancy may be classed as the purely fetal and the purely maternal; the latter in the double form of the chemical action of the ovarian hormone and the chemical action of the products of the fetal metabolism.

56. **Microscopic Retrospective Diagnosis of Pregnancy.**—Schickele gives the microscopic findings in six typical cases of a dubious history as to a preceding pregnancy. In several of the cases the discovery of chorionic villi confirmed the diagnosis, but the finding of hyaline vessels with ectoderm cells seems to be specific of a preceding pregnancy, according to his experience. In some cases there was nothing to suggest that the woman had ever been pregnant, but investigation of the history always confirmed the assumption on this basis. Even after all the other tissues revealing a pregnancy have disappeared, the hyaline structure of the vessel walls and the ectodermal cells in them are sufficient to sustain the assumption of a pregnancy, he says, and it is superfluous to continue the search for chorionic villi.

58. **Puerperal and Postoperative Thrombosis and Embolism.**—Klein's monograph fills 146 pages and, besides an extensive review of the various theories and views on the subject, it presents the lessons learned from ten years' experience at the university clinic at Vienna in charge of Wertheim. There was thrombosis in seventy-six of the 34,951 maternity cases during this period, over 40 per cent. being in the normal thirty-one cases and over 59 per cent. in the forty-five pathologic cases. There were seventy cases of postoperative thrombosis during the period, among 5,851 gynecologic operations, 56 per cent.

consecutive to a laparotomy. In a third of all the postoperative thrombosis cases, the operation had been for removal of a uterine myoma. He accepts that thrombosis may be anticipated in 33 per cent. of all the myoma cases, especially when they are removed by the abdominal route. The details of the cases are summarized for comparison, and attention is called to the fact that postoperative thrombosis has dropped from 2 to 0.5 per cent. since the women are allowed to leave the bed early. Very mild postoperative embolism developed in two of the women allowed to get up early, while three fatal cases were observed among the women not allowed to get up until after the routine period. Analyzing the total fifteen cases of postoperative fatal pulmonary embolism, Klein thinks that there is a possibility that immediate exposure of the pulmonary artery according to Trendelenburg's suggestion might have saved the women in the few cases in which death did not occur for twenty to thirty minutes after the onset of the serious symptoms; one of the women in this group was an unusually robust young woman. At the same time, he remarks, the women having just passed through a major operation, their resisting powers are at an exceptionally low ebb. The tincture of iodin sterilization of the skin is an aid to rapid preparation for the operation, and in such cases there is nothing to lose and everything to gain. In conclusion he tabulates the statistics from various clinics to show the frequency and percentage of puerperal and postoperative thrombosis and embolism. In another table Klein lists their proportional frequency with his various major operations. Among 560 operations done under spinal anesthesia there were ten cases of thrombosis with one fatal embolism, but in a corresponding series of operations, under general anesthesia, there were likewise ten cases of thrombosis, but there were four cases of fatal embolism. These figures are in favor of spinal anesthesia, which avoids the injurious action of the general anesthetic on the heart. It has been Klein's experience that the elderly bear the spinal anesthesia exceptionally well. Operations requiring an hour and twenty minutes under spinal anesthesia in women between 60 and 70 without any evil by-effects were by no means uncommon. Raising the pelvis probably induces a certain predisposition to thrombosis, as also too tight dressings and meteorism. The Mahler pulse, that is, increased pulse-rate with normal temperature was observed in two patients; at the onset of the thrombosis in one case and as a premonitory symptom in the other, the pulse running up in a series of peaks and keeping from the eighth to the twenty-sixth day after the operation at about 116; the first signs of thrombosis became evident about the fifteenth day. In some other cases the pulse-rate did not correspond with the temperature. An important sign of incipient thrombosis is the larger diameter of the leg on the threatened side, especially when the left leg is even a little thicker through than the right. In prophylaxis the patient must be encouraged to move about and breathe deep. Ten or fifteen deep respirations every hour strengthen the lungs exhausted by the anesthetic. Systematic movements of the legs, bending them at knee and hip-joint and keeping up the heart with heart tonics are also important in prevention. Klein does not regard infection as a necessary preliminary to thrombosis, although it is unmistakably a favoring factor; in seven cases infection of the wound was evidently responsible. In 20 per cent. of all the cases of thrombosis there was fatty degeneration of the myocardium as also in 28 per cent. of all the cases of puerperal thrombosis. The age has nothing to do with this as some of the younger patients presented this degeneration of the myocardium. Klein regards this fact as testifying to the connection between the general anesthesia and the fatty degeneration on one hand and the operation on the other.

Archiv f[illegible]r Kinderheilkunde, Stuttgart

LV, Nos. 5-6, pp. 32[illegible]-483. Last indexed April 29, p. 1300

59 Case of Transpositi[illegible] of the Aorta and *Pulmonary Artery.* (Ueber Transpositi[illegible] der grossen Schlagadern des Herzens.) Z. v. Bokay.
60 *Treatment of Phlegmo[illegible]s Diphtheria. N. R. Blumenau.
61 *Disadvantages of Institu[illegible]nal Care for Infants. (Funfjährige Erfahrungen im Kinde[illegible]yl.) J. Cassel.
62 Echinococcus Disease of t[illegible] Lungs. W. G. Archangelsky.
63 Epidemic of Measles Plu[illegible]iphtheria. (Mitteilungen über eine Masern- und Diphthe[illegible]Epidemie.) P. Auerbach.

60. Phlegmonous Diphtheria.—Blumenau states that 265 patients with phlegmonous diphtheria were admitted to the Children's Hospital at St. Petersburg, 1895-1908, and sixty-seven died during the first day. The majority of the children were about 5 years old; the mortality decreases with the age, from 100 to 16.6 per cent. Early vomiting is an unfavorable sign, generally being followed by paralysis of the heart. Nephritis was observed in nearly all the cases from the first, but it proved mild. Under serotherapy the throat cleared by the beginning of the second week, but the heart symptoms generally developed at this time. The whole syndrome indicates a specific, extremely toxic form of diphtheria, and antitoxin should be given freely and in a way to surround the enemy most rapidly and effectually, he says, that is, by the intravenous route. The various factors involved in the syndrome are discussed and the literature reviewed.

61. Disadvantages of Institutional Care of Infants.—A number of points are emphasized in this review of five years of medical supervision of a foundlings' asylum. Attention is called to the lack of exercise of infants in an institution. They do not get the chance to move their limbs, sit up, creep, etc., as in the home, and they lack the mental stimulus of the home environment. The institutional life is monotonous and the infants are quiet and sober. The infants eat at regular periods and do not develop the appetite of children in the home, so that it is much harder to accustom them to a mixed diet. On the whole, Cassel declares, an institutional life for young children is a prison life. The result is a "hospitalism," and he insists that an institution should be regarded only as a temporary makeshift.

Archiv für Verdauungs-Krankheiten, Berlin

June, XVII, No. 3, pp. 241-394

64 *Retention of Stomach Contents with Unimpaired Motor Functioning. (Ueber die diagnostische Bedeutung alimentärer Restproben bei ungestörter Magen-Motilität.) L. Bamberger.
65 *Determination of Urobilinogen and Urobilin and Their Clinical Importance. (Nachweis des Urobilinogens und des Urobilins und die klinische Bedeutung dieser Körper.) E. Münzer and F. Bloch.
66 *Ultimate History of Ninety-One Patients with Gastric Achylia. (Ueber Achylia gastrica und ihre Beziehung zur Motilität; sowie über das Schicksal von 91 Achylikern.) H. Ley.
67 *Technic and Clinical Importance of Proctosigmoidoscopy. (Rektoromanoskopie.) L. v. Aldor.
68 *Gastric Ulcer in Japan.* G. Yukawa.

64. Retention of Food with Unimpaired Gastric Motility.—Bamberger found 4 or 5 c.c. of relics of food in the fasting stomach in 36 per cent. of seventy-five persons examined, that is, traces of food visible to the naked eye, when the motor functioning of the stomach seemed to be normal. This retention was never found, however, in persons known to be absolutely healthy. There was always something wrong in the stomach or elsewhere; the gastric mucosa was uneven from cicatricial changes, or there was hypersecretion or some gall-stone trouble. Macroretention, as Bamberger calls it, is therefore only conditionally reliable as a sign of gastric ulcer or cancer; it may occur even with affections outside of the stomach. Microscopic retention was evident in 62.5 per cent. of the healthy persons examined and in 60 per cent. of the patients with cholelithiasis but free from stomach trouble. The findings confirm the assumed connection between hypersecretion and gastric ulcer. Over 20 c.c. of gastric juice was a frequent finding in the fasting stomach in the ulcer cases.

65. Urobilin in the Urine.—Münzer and Bloch tabulate the findings with various tests for determination of the bile pigments in the urine as applied to five persons with various blood diseases, six with gastric or intestinal affections and eleven with gall-stones or jaundice or both. The results show that urobilin is not eliminated as such but as urobilinogen, and urobilin is formed out of this as the urine stands exposed to the daylight. It occurs only in traces in health; larger proportions seem to be encountered only with more or less derangement of the liver cells. Urobilinogen may be totally absent in the urine in case of total obstruction of the bile ducts and in mild liver affections accompanied by much jaundice, although bile pigment may pass into the urine. By using the alcohol-ether extract technic, it is possible to dispense with the preliminary removal of indol and skatol with ligroin, otherwise necessary to prevent error. Münzer and Bloch found Ehrlich's benzaldehyd reaction the best technic for detection of urobilinogen in fresh urine.

66. **Gastric Achylia.**—Ley's experience conflicts with Einhorn's assertion that the secretion of mucus is necessarily defective in simple achylia. Ley reports the results of tests on twelve achylic patients and five controls given a test oatmeal porridge meal, and six achylics and five controls given 25 c.c. of scraps of meat in suspension in 250 gm. fluid. In a further series of tests sixteen achylics and four controls were examined afterward with the Roentgen-rays. The results of the tests all tend to disprove the assumption that the motor functioning of the stomach is augmented in case of gastric achylia. The achylia generally persists unchanged throughout life. The evidence further disproves the assumption that achylia may lead to pernicious anemia; the reverse sequence is more liable to be the case. Ley's experience with 300 cases of gastric achylia, including ninety-one cases traced to date, does not indicate any special predisposition to gastric ulcer or cancer in persons with achylia. The disturbances from the achylia had existed for six months or more in all the cases, and there was a suspicion of cancer in fourteen, confirmed by the outcome in the majority, but these patients were all in the cancer age. Of the ninety-one achylics whose history was traced, 28.5 per cent. have succumbed since to various causes, the majority being over the age of 50 and of the hard working classes. Over 50 per cent. of the surviving sixty-five seem to be free from disturbances on account of their achylia when they pay attention to their diet, some having no disturbances, even without dieting. Four have diarrhea and fourteen constipation; twenty-two of the patients have increased in weight during the six years since they were under treatment. Only one was between the ages of 15 and 20, two between 20 and 25, seven between 25 and 30, and seventy-three were between 30 and 60. All but 23 per cent. complained of loss of appetite; 42 per cent. had constipation and 15 per cent. diarrhea; anemia was encountered in only three of the ninety-one patients; hypermotility was evident in forty-five, and atony in sixteen. In forty-six cases the preceding diagnosis had been chronic gastritis.

67. **Proctoscopy.**—The technic for direct visual inspection of the rectum and sigmoid flexure has been improved by von Aldor, he claims. His graduated tube is in three parts which permits the flexure to be examined after the rectum has been inspected without the necessity for introducing the obturator again or changing the tube. A further advantage is that the distance between the inspecting eye and the lesion is merely the distance from the anus to the lesion as all superfluous length of the tube is avoided by this arrangement of the tube in three segments. Von Aldor says that the American device to secure this advantage is complicated and expensive. He emphasizes anew the fact that lesions in the lower segment of the bowel may develop and exist for a long time without appreciable subjective disturbance. The recurring slight hemorrhages are usually what brings the patient first to the physician for relief from the supposed hemorrhoids. The important point which von Aldor specially emphasizes is that malignant disease in the lower rectum generally develops in connection with hemorrhoids. The bleeding piles mislead both patient and physician to neglect further examination of the region above. Von Aldor also emphasizes the fact that chronic proctitis in most cases is of a hemorrhagic nature and accompanied by hemorrhoids. Hemorrhage is comparatively rare with what he calls proliferating proctitis (Strauss calls it "grey irritation pyramids" or "hemorrhoidal teeth"). The greatest triumphs of rectosigmoidoscopy are in the early detection of incipient cancer at the sigmoid flexure, and von Aldor reports a case of the kind in which a man of 43 consulted him on account of constipation which had gradually become more severe during the last two years. A few years before he had had bleeding hemorrhoids and he had lost over 10 pounds in weight during the last few months. Nothing pathologic was found anywhere until the proctoscope revealed carcinomatous changes at the sigmoid flexure. There were adhesions to the bladder and appendix, and a pararectal abscess. An operation attacking the lesion from above and below, resecting 45 cm. of intestine, restored the patient to apparently complete health and he has gained nearly 40 pounds in weight during the five months since. Extreme constipation in an adult male should always compel proctoscopy.

Berliner klinische Wochenschrift

June 12, XLVIII, No. 24, pp. 1069-1112

69 Anaphylatoxin. F. Neufeld and H. Dold.
70 *Pulmonary Tuberculosis in the Aged. (Die tuberkulöse Lungenphthise alter Leute.) C. Hart.
71 Two Cases of Atrophy of One Lung. A. Döblin and Biernath.
72 *Differential Diagnosis Between Pleurisy without Effusion and Intercostal Neuralgia. E. Schepelmann.
73 *Symptomatology of Pleurisy. A. Sternberg.
74 Graphic Registration of Respiration Sounds. (Aufzeichnung der Atmungsgeräusche.) H. Gerhartz.
75 Comparison of the Electrocardiograms Obtained by the Filament Galvanometer and the Oscillograph. T. Groedel and Meyer-Lierheim.
76 The Adrenals in Atrophic Cirrhosis of the Liver. (Die feine Struktur der Nebennieren des Menschen bei der Laennec'schen Cirrhose.) M. Dominici.
77 Salvarsan and Hyperideal. P. Ehrlich.

70. **Pulmonary Tuberculosis in the Elderly.**—Hart comments on the scant attention paid to this subject, and yet the clinical aspect of tuberculosis in the elderly is of a special type. Besides its chronic character and the tendency to heal, it is distinguished by the slight tendency to dissemination, owing to various local causes. He discusses them in detail, emphasizing that the prospects of healing of a tuberculous apical focus are best in the elderly.

72. **Differential Diagnosis of Intercostal Neuralgia and Pleurisy Without Effusion.**—Schepelmann says that when the trunk is bent over to the side the seat of the pain, the pain increases in case of intercostal neuralgia, while with pleurisy the pain increases when the trunk is bent over to the sound side. He explains the mechanism of this but warns that sometimes both the pleura and the nerve are inflamed in which case nothing is to be learned from this sign. Muscular disturbances may be differentiated by the painfulness of any and all movements of the trunk and arms and possibly by the tenderness of the muscles involved, the frequent change in the localization of pain and the improvement under application of the induced electric current.

73. **Muscular Symptom of Pleurisy.**—Sternberg has noticed for years that persons with pleurisy without effusion complain of pains in the muscles on the affected side. A certain group of muscles become painful with every acute attack or exacerbation, and the degree of painfulness increases and declines with the intensity of the pleuritic process. If the patient crosses his arms far enough to place the palms on the opposite shoulders, this flattens out the intrascapular space, and the patient experiences pain when the examiner's thumbs are pressed in on the rhomboideus muscle on the side affected. The trapezius, pectoralis and the infraspinatus may also be involved. There is no pain when a fold of the skin is squeezed; the typical painfulness is probably the result of a toxic myositis from the same toxic agent which is causing the inflammatory process in the pleura. Sternberg thinks that this explanation throws light also on Pottenger's symptom, the rigidity of the muscles over the disease focus, and on the atrophy of the muscles with a unilateral tuberculous process. The causal connection between this atrophy and preceding attacks of pleurisy with myositic changes is shown by the fact that the atrophy affects always the same group of muscles which give the pain reaction in pleurisy. Sternberg's extensive experience indicates that this reaction has considerable diagnostic importance, both for the existence and the progress or retrogression of inflammatory processes in the pleura.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 20, XLI, No. 18, pp. 625-656

78 Typhoid Epidemic in Poorhouse. (Zur Epidemiologie und retrospektiven Blutdiagnostik des Typhus abdominalis.) A. Schüpbach.
79 Pupil Disturbances. (Verschiedene Pupillenstörungen.) A. Vogt.

Deutsche medizinische Wochenschrift, Berlin

June 15, XXXVII, No. 24, pp. 1105-1152

80 *Serodiagnosis of Epidemic Poliomyelitis. E. Müller.
81 *Immobilization in Treatment of Epidemic Poliomyelitis. (Behandlung der frischen Kinderlähmung durch Ruhigstellung.) E. Mayer.
82 *Thrombosis of Femoral Veins After Intestinal Catarrh. H. Strauss.
83 *Determination of Uric Acid in the Blood. (Methode zum Nachweis und zur quantitativen Bestimmung von Harnsäure in relativ kleinen Blutmengen.) A. Kowarsky.
84 *Peritonitis from Perforation of Gall-Bladder. R. Bertelsmann.
85 Internal Urethrotomy. F. Hilbotter.
86 Streptococcus Responsible for Most Cases of Chronic Urethritis. A. v. Wahl.
87 Two Cases of Herpes Zoster in Connection with Kidney Disease. A. Rosenbaum.
88 Prophylaxis and Treatment of Decubitus. A. Zweig.

80. **Serodiagnosis of Epidemic Poliomyelitis.**—Müller does not think that the method which he has found successful has much importance for the clinic as it requires inoculation of monkeys, but it promises to throw light on a number of scientific questions, such as whether there are germ-carriers for this disease as for typhoid, and whether the seroreaction would be positive in the apparently healthy persons in the environment of the sick, also whether the disease affects children exclusively only because adults have acquired immunity to it. The method will also prove useful to differentiate dubious sporadic cases. The antibodies giving the reaction persist for years and decades after the infection.

81. **Treatment of Paralysis After Poliomyelitis.**—Mayer reports two cases in which treatment was applied on the principle of absolute repose for the muscles to prevent development of paralysis, similar to the treatment of spondylitic paralysis. The results were extremely satisfactory in his cases and he urges the application of the principle on a broader scale.

82. **Femoral Thrombosis After Intestinal Catarrh.**—Strauss reports three cases of thrombosis on one side with severe colitis. The left femoral vein was affected in each case and no other reason for the development of the thrombosis, except the bowel trouble, could be discovered. His experiences confirm those reported by Riedel, summarized in The Journal, July 8, page 170.

83. **Determination of Uric Acid in the Blood.**—Kowarsky has modified the murexid test for uric acid, so that it can be applied for determining the amount of uric acid in even so small an amount as 10 c.c. of blood. The uric acid is precipitated by ammonium chlorid, concentrated by centrifuging and then crystallized out by treating the sediment with a few drops of concentrated hydrochloric acid. In gout there is from 0.2 to 0.6 gm. in 10 c.c. of blood, and it is easily identified by the murexid test applied to the crystals. The simple technic differentiated gout without trouble in the twelve clinical cases in which the method has been applied to date, while none of the controls gave a positive reaction. On addition of 0.2 mg. uric acid to normal blood the findings were identical with those in persons with pronounced tophi. (*For the murexid test the substance is treated with nitric acid, evaporated and moistened with ammonia water. Uric acid gives then a purple color as murexid is formed.*)

84. **Peritonitis from Perforation of the Gall-Bladder.**—Bertelsmann reports three cases of this kind which he has encountered during the last two years, all the patients recovering. His experience confirms the great difference in the outcome between the cases in which perforation occurs in the course of gangrenous inflammation and those resulting merely from erosion from a calculus. Two of the cases were the most severe peritonitis which he has ever known to have a favorable termination. Bertelsmann ascribes this outcome to the careful rinsing out of the region with salt solution and subcutaneous infusion of 2 liters and intravenous of 4 liters of the salt solution in the course of two hours, the last 2 liters containing a little epinephrin. The collapse he ascribes to the bleeding away into the peripheral vascular system, especially into the splanchnicus domain. The apparently quite moribund patient, the radial pulse gone, respiration arrested, revived slowly as soon as 250 c.c. of the solution with the epinephrin had been infused and by the end of the infusion the pulse was full and strong and the patient had recovered consciousness. The condition had been so serious, the collapse so severe, that Bertelsmann almost wished that the family would refuse the operation which he makes it a principle *always to insist on no matter how desperate the condition.* The patient was soon restored to health. In another case the gall-bladder was so packed with 420 stones that there was no room for the bile and the perforation did not cause much disturbance. Bertelsmann's cases teach the necessity for thorough cleansing out of all the bile that has found its way into the abdominal cavity and, further, that the peritoneal collapse which this is liable to induce can be successfully combated by copious saline infusion before and during the operation.

Deutsche Zeitschrift für Chirurgie, Leipsic

May, CIX, Nos. 5-6, pp. 425-626

89 *Surgery and Pathology of the Diaphragm. H. Gross.
90 Experimental Research on Tuberculosis of the Thyroid. Y. Shimodaira.
91 Operability of Hypophysis Tumors. E. Bode.
92 Subcutaneous Fat Tissue Necrosis. (Zur Kenntnis der subkutanen Fettgewebsnekrose.) M. Heyde.
93 Partial Rupture of the Bladder. (Inkomplete Harnblasenruptur.) M. Cohn.
94 *Carbon Dioxid Snow in Treatment of Angiomas and Nevi. (Anatomische und klinische Beiträge zur Behandlung der Angiome und Naevi mittels Kohlensäureschnee.) A. Salomon.
95 Experimental Production of Gastric Ulcers by Injury of Nerves. (Ueber die experimentelle Erzeugung von Magengeschwüren durch Nervenläsionen.) K. Kawamura.
96 Two Loops in Incarcerated Hernia. (Weiterer Beitrag zu der Frage der "zwei Darmschlingen im eingeklemmten Bruch.") C. Lauenstein.
97 *Injection of Emulsion of Periosteum in Treatment of Pseudoarthrosis. J. Sasaki.
98 Conservative Operations on the Kidneys. J. Fabricius.

89. **Surgery of the Diaphragm.**—Gross has had occasion to operate on the diaphragm in two cases of circumscribed tuberculosis of its muscular portion and in a case of sarcoma involving the diaphragm, lung, pericardium and spleen and requiring the most extensive resection of the diaphragm on record. The patient, a rural letter-carrier, 30 years old, was soon dismissed from the hospital in good condition. He died nine years later from cachexia and paralysis but whether due to recurrence or metastasis is not known. The extensive gap in the diaphragm was easily sutured but the diaphragm did not resume its excursions as long as the man was under observation. Evidently there was a reflex paralysis, and the repose thus induced favored the healing. Excision of the tuberculous focus in the two other cases proved a simple matter and the outcome has been a permanent cure.

94. **Treatment of Angiomas and Nevi with Carbon-Dioxid Snow.**—This communication from Bier's clinic at Berlin reports the application of Pusey's method in 250 cases of angioma or nevus. The permanent cure was confirmed by later examination in ninety-three cases. Salomon states that nothing can compare with the action of the carbon-dioxid snow except the effect of radium, the *x*-rays and the mercury quartz lamp but the dioxid treatment is far simpler and less expensive than either of the others. It acts by destroying the skin and upper layers of the subcutaneous angioma tissue, leaving the layer of epithelium intact. The method consequently is applicable only to simple, superficial angiomas, diffuse red pigmented nevi and brown nevi and teleangiectasia. It is not adapted for plexiform angiomas and cavernomas. For the latter, injections of alcohol according to Schwalbe have proved effectual in his experience; if this method is too slow, secondary excision is bloodless and free from danger. If the cavernoma extends into the cutis, the carbon-dioxid snow may be combined with the alcohol injections.

97. **Treatment of Pseudarthrosis with Injections of Emulsion of Periosteum.**—Sasaki declares that the results of his experimental research in this line justify the application of the method in the clinic. He advises taking the periosteum from the patient for the purpose, from the tibia, for instance. If this is not practicable, the periosteum from an amputated limb might be used or from fresh cadavers. The periosteum from infantile bones should be given the preference. The method is applicable, Sasaki says, when callus formation is delayed, for pseudarthrosis, in plastic operations, especially on the nose and jaw, and for all operations to close defects in bones.

Medizinische Klinik, Berlin

June 11, VII, No. 24, pp. 913-954

99 *Tuberculosis and the Nervous System. Voss.
100 Special Diets in Hospitals. (Die Küchenfrage in Kliniken und Krankenhäusern.) A. Schmidt.
101 Traumatic Neure[illegible] of the Bones. (Traumatische Neurose und [illegible] E. Biberfeld.
102 Carbohydrate Co[illegible]
103 Importance of Psychotherapy in Spa Practice. (Bedeutung der Psychotherapie in der balneologischen Praxis mit bes. Berücksichtigung der psychopathisch-anämischen Zustände in der Pubertät.) J. Krone.
104 Determination of Acidity of Gastric Juice. L. Michaelis and H. Davidsohn.
105 Causes of Irregular Action of Drugs, Especially in Tablet Form. E. Seel and A. Friederich. C[illegible]
106 Behavior of the Scaphoid Bone of the T[illegible] Flexed. (Verhalten des Navikulare b[illegible] der Hand.) H. Virchow.

99. **The Nervous System in Tuberculosis.**—Voss remarks that while there is no typical tuberculous psychosis yet the criminal responsibility of consumptives may often be regarded as attenuated. Mircoli declares that the tuberculous in general should be regarded from the standpoint of attenuated responsibility, and Fishberg has called attention particularly to the cases in which tuberculous individuals, despairing of recovery, lose all regard for the conventionalities and give free vent to their envy and rage. The psychic condition in tuberculosis, Voss continues, is responsible for the vogue of certain remedies; the suggestive power of the new and the waning faculty of judgment combine to delude the patients into false estimation of the efficacy of new remedies. The pains with incipient caries of the upper spine may lead to the mistaken assumption of a pure occipital neuralgia. Caries of the ribs induces intercostal neuralgia; tuberculous hip-joint disease also induces a typical pain radiating down toward the knee on the inner surface of the thigh. Wohlauer has recently pointed out that scoliotic sciatica may be the first symptom of lumbar spondylitis. Investigation of the entire spine is extremely important in all cases when a young patient tires readily and has neuralgiform pains in the back with exaggeration of the tendon reflexes and variable hyperesthesias. A search should be made for signs of multiple sclerosis, changes in the fundus of the eye, nystagmus, vertigo, etc. Paralysis of the recurrent nerve from compression by tuberculous bronchial glands is not infrequent, and Voss has seen paralysis of the posterior thoracic nerve follow removal of tuberculous glands extending down into the supraclavicular fossa. With a tubercle in the brain the prognosis is rendered graver by the frequent multiplicity of the lesions as in a case described in which a tumor in the right motor region was diagnosed and removed with apparent recovery, but the patient died nine months later from tubercles elsewhere in the brain. Voss discusses further tuberculous neuritis and the increased irritability of the heat centers as explaining the fluctuations in the temperature. Claude insists that epileptics are peculiarly resistant to tuberculosis, but Voss has had no opportunity to study this question.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 2, pp. 169-342. Last indexed June 3, p. 1695

107 *Acute Dilatation of the Stomach. (Akute Magenerweiterung.) H. Kuru. (Bemerkung zum Aufsatze von Haruzo Kuru.) B. Naunyn.
108 *Postoperative [illegible] on the Part of the Lungs. N. [illegible]
109 *[illegible] (Appendicitis und Gravidität.) H. H. Schmid.
110 *Injury of the Heart from Orthopedic Corset. (Ueber Schädigungen des Herzens durch dauerndes Tragen fester Stützkorsetts.) O. Brosamlen.

107. **Acute Dilatation of the Stomach.**—Kuru gives the details of four cases from his own experience and of eleven of which reports have been published in Japan by other surgeons. In the total fifteen cases the acute dilatation developed without a preceding operation or anesthesia in five, once following contusion of the stomach and in the others from excess in eating during convalescence from typhoid or in the course of protracted suppuration or in phthisis. Two of these patients died while four died of the ten patients whose acute dilatation followed an operation under general anesthesia, laparotomy, nephrotomy or castration. The dilatation, he remarks, may result from direct injury of the stomach or by reflex action from some remote irritation, or by injury of the nerves (combined with severe heart disturbances), either from autointoxication or from exhaustion of the chromaffine substance of the adrenals which seems to be necessary for regulating the action of the stomach and heart. The dilatation may result further from obstruction of the gastro-intestinal tract either by tamponing in the vicinity of the pylorus, kinking of the intestine, valvular occlusion of the cardia or arteriomesenteric occlusion. No case of the latter kind has yet been reported in Japan. The total mortality in these Japanese cases was 40 per cent., and 50 per cent. among the laparotomy cases. Eleven of the patients were men. In all the cases washing out the stomach was the main reliance. When the trouble is due to abnormal fermentations or overloading, this has a direct curative action, and even when the trouble is of other origin, it has a very useful palliative effect, except immediately after an operation on the stomach itself, in which case faradization is preferable. Tomita applied it in his case of this kind with success. Kuru did not realize much benefit from changing the position of his patients, although he admits that this would certainly put an end to the vicious circle in cases of genuine arteriomesenteric occlusion. In conclusion he suggests that injections of epinephrin and physostigmin and saline infusion might be tried; epinephrin is especially indicated when there is reason to assume that the severe symptoms are the result of acute exhaustion of the adrenal cortex.

Naunyn comments on the scant attention paid to his statements years ago in regard to the relation between fermentation in the stomach and acute insufficiency of this organ. Minkowski and Ehret have since presented evidence to sustain the importance of fermentations in the etiology of acute dilatation of the stomach and the value of lavage of the stomach in combating it.

108. **Postoperative Complications on the Part of the Lungs.**—Spassokukotzky concludes from analysis of the cases at the St. Petersburg gynecologic institute in charge of Professor Zeidler, that postoperative complications on the part of the lungs are only rarely of embolic origin. When this is actually the case the symptoms and course are unmistakably characteristic. By far the large majority of postoperative complications are due to a variety of causes, especially the closeness of the air in the rooms where the patients are convalescing, the abnormal physiologic conditions for the lungs during the first few days after laparotomies, the patients avoiding normal breathing as this makes the wound hurt, and last but not least the chronic irritation of the upper air passages from tobacco. The effect of the general anesthetic is not such a predominant factor in the development of postoperative pulmonary complications as has hitherto been assumed. Even when the convalescent is in a room with apparently ample ventilation, it must not be forgotten that the air is contaminated from the crowded ward and corridor near by and that the visits of professors and students exhaust the air. The connection between the contamination of the air and the development of the pulmonary postoperative complications is evident further in the prevalence of these complications during the months when the windows and doors are kept closed. The proportion of carbon dioxid in the rooms was found to be from 2 to 2.5 per 1,000, more than double Pettenkofer's limit for respirable air. The conclusions of the article are encouraging, as the factors incriminated are avoidable to a certain extent.

109. **Appendicitis and Pregnancy.**—Schmid has been able to collect from the literature 458 cases of appendicitis during a pregnancy to which he adds twenty-eight unpublished cases from von Eiselsberg's clinic at Vienna. In over half the cases the pregnancy was the first or second and the appendicitis generally occurred during the third to the sixth month; in sixty-two cases it did not develop until during the puerperium. Only 308 of the women were given operative treatment. The mortality in the total 486 cases was shockingly high as Schmid shows in his tables; every effort should be made to improve the prognosis by early differentiation and an early operation. The general practitioner, he declares, must make a special study of the clinical aspect of appendicitis developing during a pregnancy or childbed so as to recognize it in time and have the woman transferred to an institution where she can be under constant supervision. Schmid's statistics indicate that

1 out of every 1,000 pregnant women has appendicitis, and that 2.5 per cent. of all the women with appendicitis are pregnant. The fact of the pregnancy does not seem to favor the development of an appendicitis for the first time, but it favors recurrences of appendicitis. The mild forms of appendicitis run their course about the same in and outside of a pregnancy, but severe cases are influenced in a most injurious manner by an abortion or normal delivery. The pregnancy is generally interrupted by the participation of the peritoneum in the appendicitic process if the focus is not excised at once. The relics of the appendicitis are liable further to interfere with normal involution of the uterus and induce adhesions with resulting sterility or habitual abortions or extra-uterine pregnancies or leave a tendency to uncontrollable vomiting. Interruption of the pregnancy as the sole means to influence the appendicitis is useless and directly harmful. When appendectomy has been done shortly before normal delivery, to protect the young cicatricial tissue it is better to deliver the child by Cesarean section. If the peritoneum is much involved in the appendicitis or abortion is impending, after appendectomy and walling off the abdominal cavity, it may be wise to empty the uterus and not drain until after this has been done. Brief summaries of the entire series of 476 cases are appended, especially to show the occasional difficulty in differentiating appendicitis when it is masked by the conditions of the pregnancy or puerperium.

110. **Injury of Heart from Orthopedic Corsets.**—Brosamlen has been examining twenty-five patients after they had been wearing leather supporting corsets for several months for some affection of the spine. Seventeen of the patients had been carefully examined before applying the orthopedic corset. He found unmistakable evidence of direct injury of the heart at the second examination in twelve of the seventeen, either in the form of an accentuated second pulmonary sound and bulging pulsation or of enlargement of the area of cardiac dulness. The patients giving negative findings had worn the support for less than a year, and probably would have developed the heart disturbances in time. The patients were mostly young girls with weak musculature, and the stiff orthopedic corset had hindered the normal excursions of the lungs in respiration. The importance of normal functioning of the lungs for the normal circulation through the heart is confirmed anew by the experiences in these cases. They show further that anything tending to impede the physiologic excursions of the lungs is liable to have a directly injurious action on the heart and circulation in the region. In the cases in which the corset was not worn constantly or was laid aside for certain hours daily, the injury was comparatively slight or no injury was apparent. When a supporting corset has to be worn constantly it should be cut out in such a way as to leave the lungs free to expand, and persons with weak muscles should not wear any stiff orthopedic corset unless absolutely necessary.

Monatsschrift für Kinderheilkunde, Leipsic

May, X, No. 2, pp. 55-130

111 Curds in Infants' Stools in Connection with Raw Milk Feeding. (Kaseinklumpen im Kinderstuhl im Zusammenhang mit Rohmilchernährung. I.) J. Ibrahim.
112 *Psychopathic Origin of Impulse to Run Away from Home. (Wandertrieb psychopathischer Knaben und Mädchen.) W. Schlieps.

112. **The Impulse to Run Away from Home.**—Schlieps remarks that little attention has been paid to the study of children who without *any* motive run away from home, and yet the instinct to do this proceeds from a pathologic basis, just as in adults. Heilbronner found fourteen children between 8 and 15 among the fifty-seven cases of *fugues*, poriomania or *Wandertrieb* on record. Signs of degeneracy were evident in all these cases. Schlieps agrees with Schultze that even when there is some apparent motive for the leaving home, the impulse to do so is largely if not entirely pathologic. The impulse may accompany the most diverse psychopathic conditions, although it is most frequent among degenerates and imbeciles. The child displays sometimes great ingenuity and cunning in getting away, but once free he is liable to push on aimlessly and he takes with him usually only foolish things, with no provision for food. Schlieps describes three cases from his recent experience, two in girls of 11 and 15. Heilbronner calls it the result of "dysphoria," the restless mood coming on more early each time and the resistance to it becoming weaker and weaker until there is a habitual tendency to vagabondage. Whipping the children to keep them from running away only increases the tendency. The main point in treatment is to enlighten the parents as to the true nature of their child's tendency to run away and to eradicate it before it becomes a habit. The habit once installed, institutional measures may be necessary to break it up and save the still normal mental faculties.

Münchener medizinische Wochenschrift

June 13, LVIII, No. 24, pp. 1281-1336

113 *Ovarian Hormone as Cause of Growth of Myomas. L. Seitz.
114 Influencing of Skin Reactions to Bacterial Toxins. F. Rolly.
115 Predigested Albumin Foods. (Ueber die Ernährung mit tief abgebauten Eiweisspräparaten.) F. Frank and A. Schittenhelm.
116 *Epinephrin to Induce Anemia for Radiotherapy. (Adrenalinanämisierung als Hautschutz in der Röntgentherapie.) K. Reicher and E. Lenz.
117 *Diagnosis of Pleurisy in Children. (Zur praktischen Diagnostik der Kinderpleuritis.) F. Hamburger.
118 *Diagnosis of Tumor in the Hypophysis. (Zur Kenntnis der Geschwülste der Hypophysengegend.) R. Kümmell.
119 Postpartum Hemorrhage. F. Heimann.
120 Diagnosis of Small-Pox. (Zur Pockendiagnose.) E. Paschen.
121 *Proctoclysis. (Bemerkungen zum rektalen Dauereinlauf.) W. Brünings.
122 Therapeutic Diathermia. A. E. Stein.
123 Salvarsan in the Hands of the General Practitioner. K. v. Stokar.
124 Repeated Suprasymphyseal Cesarean Section. (Zur Kasuistik des wiederholten suprasymphysären Kaiserschnittes.) K. Mayer and K. Hartmann.
125 Alcoholism in Munich. E. Wittermann.
126 Technic for Determination of Salvarsan. P. Beisele.

113. **Influence of Internal Secretion of the Ovary on Growth of Myomas.**—Seitz comments on the significance of the facts that myomas retrogress after castration and exposure of the ovaries to the Roentgen rays and during the menopause, and that myomas never develop until after the ovaries have reached maturity. All the evidence to date seems to show that the internal secretion of the ovaries influences the growth of uterine myomas. Tumors in the ovaries do not show this dependence on ovarian functioning; they are encountered at all ages.

116. **Anemia from Epinephrin in Roentgen-Ray Work.**—Reicher and Lenz state that it is possible by expelling the blood from the region with epinephrin, nearly to double the dosage of the rays without injury. This technic is especially adapted for subcutaneous cancers. They inject the epinephrin solution at several points over the area to be exposed and follow with the exposure at once. The exposure can be repeated the second and third days, and again after a pause of fourteen or eighteen days.

117. **Diagnosis of Pleurisy in Children.**—Hamburger has found that dulness over the entire side of the thorax is never encountered in children except in pleurisy, but exploratory puncture may be needed in dubious cases. The auscultation findings alone may be misleading, but differentiation of a purulent pleuritis is extremely important for treatment in time. The most frequent source of error is that the accumulation of fluid is taken for infiltration of the lung.

118. **Hypophysis Tumors.**—In two of the four cases which Kümmel has encountered, there was no change in the pulse-rate and no choked disk, but other signs of pressure on the brain were confirmed in *one* case by discovery at necropsy of a hypophysis tumor as large as a plum. A year or two after the first symptoms of trouble bitemporal hemianopsia was evident, a sign that the lesion affected not *only* the chiasm but undecussated parts of the optic nerve. There was no abnormal growth in these cases but the third patient, a man of 23, had the face of a man of 45; while the body was that of a boy of 14. The fourth patient was an *obese* girl of 14 with glycosuria and a myxedematous aspect and disturbances in vision and menstruation but no hemianopsia. Bitemporal hemianopsia, especially for colors, seems to be one of the most reliable signs of a hypophysis tumor as it was pronounced in three of the four cases reported.

121. **Coffee in Proctoclysis.**—Brünings urges the occasional substitution of coffee for the usual saline solution in proctoclysis, relating his personal experiences after operative treat-

ment of an intestinal affection. His thirst was intense and only partially relieved by continuous droplet proctoclysis with salt solution, and he had considerable nausea. The second day he begged to have a cup of coffee take the place of the salt solution, which was done, the coffee being sweetened and diluted to one-half the usual strength. This gave great relief and stimulation, and another cup of coffee was used in the same way, except unsweetened, in the afternoon. The benefit of the stimulating coffee was pronounced each time, and he advises this as a routine measure. The rectum absorbs hypotonic solutions with greater avidity and he does not think isotonicity is necessary in the fluids introduced to relieve the thirst after general anesthesia. There is no necessity, he states, to heat the fluid as the droplets get warm enough by the time they reach the rectum.

Wiener klinische Wochenschrift

June 15, XXIV, No. 24, pp. 851-890

127 •Localization of the Heart Sounds. (Lokalisation der Herztöne.) M. Heitler.
128 •Exacerbation of Tuberculosis in Origin of Phthisis. F. Hamburger.
129 Modifications of the Wassermann Test. (Nachprüfung der nach Angabe Müllers und Landsteiners modifizierten Methodik der Wassermannschen Reaktion mit nicht inaktiviertem Serum.) E. Epstein and S. Deutsch.
130 Alimentary Glycosuria and Epinephrin Glycosuria; Glycosuria in Pregnancy and Diabetes. M. Reichenstein.

127. Localization of the Heart Sounds.—Heitler states that several blunders in the diagnosis of valvular disease convinced him that the localization of the heart sounds as taught by the text-books is not always correct. He thus diagnosed a case of contracted kidney with functional mitral insufficiency as an organic mitral insufficiency with consecutive nephritis, and a case of arteriosclerosis with weak systolic murmur at the apex as mitral insufficiency. He has made a special study of this localization in 153 patients with various heart and kidney troubles and 120 normal persons, paying particular attention to influencing the action of the heart by reflex means. He found that brief mechanical irritation of distant regions increased the heart action while it reduced the heart action when long continued. Gentle stroking of the skin over the liver, for instance, augments the heart action. But considerable pressure over the liver region has an opposite effect, the sound of the left ventricle and aorta become weaker and deeper, the sounds of the right ventricle and pulmonary artery become stronger and usually higher; the energy of the left ventricle is reduced, the energy of the right ventricle augmented. This liver-heart reflex is useful to discriminate between mitral and tricuspid murmurs and it also determines the originating point of the sounds made by the right and left heart, as he explains in detail. In two cases this reflex explained the reduplication of the second sound. In a case of mitral stenosis there was reduplication of the second sound at the base; by pressure on the liver region the first element of the reduplication became more pronounced, the second element became weaker or disappeared entirely. This suggested that the double sound was not two stronger elements of the diastolic mitral murmur—as mitral murmurs grow weaker on pressure of the liver region——but rather that the first element of the double sound had its origin at the pulmonary, the second at the aorta.

128. Phthisis and Exacerbation of Tuberculosis.—Hamburger presents arguments to prove that bacilli may slumber in a tuberculous focus until the resisting powers are lowered from any cause or the bacilli acquire special virulence; then the focus flares up anew and pulmonary phthisis becomes installed. He is convinced that nearly everyone becomes infected with tuberculosis during childhood and that the primary focus induces a certain immunity. Foci from reinfection run a mild course and heal except possibly in the apices where the focus may persist in a latent form for years.

Zentralblatt für Chirurgie, Leipsic

June 10, XXXVIII, No. 23, pp. 792-824

131 Iodin Sterilization of Skin. (Jodtinkur bei Bauchoperationen.) P. Sick and A. Hofmann.
132 Pain Induced at McBurney's Point by Indirect Means. (Die Grundlage und der Wert des Rovsing'schen Schmerzphänomens zur Diagnose der Appendicitis.) T. Hausmann.

June 17, No. 24, pp. 825-856

133 Operative Treatment of Varicocele. A. Narath.
134 Thymol for Rapid Sterilization of the Skin. (Schnelldesinfektion des Operationsfeldes mit Thymolspiritus.) König and A. Hoffmann.

Zentralblatt für Gynäkologie, Leipsic

June 17, XXXV, No. 24, pp. 857-888

135 Puerperal Self-Infection. (Ueber den Begriff der Selbstinfektion.) H. Fehling.
136 Ovariotomy During Pregnancy. (Zur Kasuistik der Ovariotomie während der Schwangerschaft.) S. Rosenfeld.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 8, XXXII, No. 69, pp. 731-738

137 •The Negative Wassermann Reaction in Pellagra. M. V. Carletti.

June 11, No. 70, pp. 739-754

138 •Case of Kidney Tuberculosis Plus Nephrolithiasis. G. Ferrarini.

June 13, No. 71, pp. 755-762

139 •Non-Gonorrheal Stricture of Urethra. (Dei restringimenti uretrali non blenorragici.) F. Cuturi.

137. The Wassermann Reaction in Pellagra.—Carletti was unable to obtain a positive reaction in any of the twenty pellagrins to whom the test was applied according to Wassermann's original technic. Repeating the test later, using lecithin for the antigen, according to Bass' technic, he obtained a positive reaction in one case, all the others being constantly negative. These negative findings are an argument against the assumption that pellagra is due to the action of a protozoon and thus they speak against Sambon's theory of the transmission of the disease by a sand-fly. One of Sambon's premises for this theory is the close analogy between pellagra and certain other diseases for which protozoa are responsible.

138. Kidney Tuberculosis Plus Calculi.—Ferrarini's patient was a man of 36 whose father died from cancer of the stomach and a brother from pulmonary tuberculosis while a sister had gout. He had passed through appendicitis eight years before since which the urine had occasionally been turbid, but the general health remained good until a few months ago when he began to grow pale and thin and finally developed a fever and tumefaction in the left kidney. The kidney was found to be the seat of two distinct morbid processes, nephrolithiasis with suppuration and tuberculosis. The latter seemed to have been primary, but a calculus in time became wedged into the outlet into the ureter; perforation followed with infiltration of urine around the ureter and also a purulent pyelonephritis, explaining the train of symptoms observed. The calculi and pus were removed and after an interval of ten days to allow the patient to recuperate, the kidney was removed and the patient has been in the best of health during the two years since.

139. Non-Gonorrheal Stricture of the Urethra.—Cuturi remarks that a syphilitic stricture is generally close to the *meatus*, being the relics of a syphilitic ulcer which is usually located close to the meatus. In one of the five typical cases reported in detail there was nothing to explain the stricture until the patient confessed that he had intentionally irritated the urethra at one time to escape compulsory military service He accomplished it by introducing matches into the meatus, the phosphorus inducing a purulent secretion; when this had healed he repeated the procedure several times. The resulting stricture did not require to be cut until twenty years afterward. With a syphilitic stricture, it is necessary to follow the urethrotomy with dilatation as otherwise the stricture is liable to grow up again. In spastic constriction a fine sound can be passed without force, while an organic stricture arrests it completely. Tuberculous stenosis is liable to recur constantly from infiltration of the walls.

Policlinico, Rome

June 11, XVIII, No. 24, pp. 745-776

140 Fracture of Upper End of Tibia. P. Sabella.
141 Febrile Syphilis. G. Nistico.

June 18, No. 25, pp. 777-808

142 Experimental Tuberculosis of the Vagina. I. Scalone.

Riforma Medica, Naples

June 12, XXVII, No. 24, pp. 645-672

143 Disease of the Stomach. (Gastropatie dinamiche ed organiche. XVIII.) G. Rummo.
144 Melanotic Tumors. C. Licini.
145 Case of Blue Disease. (Caso di morbo ceruleo, stenosi ed insufficenza del l'arteria polmonare e pervieta del foro di Botallo.) U. Gasperini. Commenced in No. 23

Ugeskrift for Læger, Copenhagen

May 25, LXXIII, No. 21, pp. 751-790

146 *The Alleged Uric-Acid Diathesis. (Urinsyrediatesen.) E. Faber.

June 1, No. 22, pp. 791-822

147 Connection Between Vestibular Apparatus and Cerebellum. R. Barany.

148 Vibratory Massage in Rhinology and Laryngology N. R. Blegvad.

146. **Uric Acid Diathesis.**—Faber ridicules the theory of the uric acid diathesis, saying that the whole apparently harmonious and imposing structure when considered closer is seen to be based on premises which are either highly improbable or unproved. The physiologic bases are hollow or have long since crumbled away; the most important connections are missing and the steeple on the building—the treatment—rests for the most part on the empty air. Faber reviews the pathogenesis, the clinical experiences and symptomatology of the various affections which are grouped as manifestations of the uric acid diathesis, and shows how they all have one common causal factor which bridges the gaps between them all, and which does not need the assumption of any diathesis to explain the true inwardness of the various affections. This one common factor is immoderation in eating. The conditions leading to overeating and drinking being usually the same for the members of a family, it is no wonder that the assumed "uric acid diathesis" affects all the members of the family, thus explaining its familial and inheritable character. The injury from overeating is felt most severely in different organs in different individuals. This explains the "mysterious" alternation of affections in the different members of the family, as for instance Charcot's classical example of a family in which the father had diabetes with obesity and of his five sons, three had gout, one diabetes, obesity and a joint disease, one obesity, and a daughter and granddaughter gout and obesity. The anomaly in the nuclein metabolism which is found in true uric acid arthritis—the low endogenous elimination of uric acid with the periodic increase and the increased elimination of exogenous uric acid—is not encountered in the other affections which are included in the alleged uric acid diathesis. This conception often stands in the way of rational management of the case. With kidney calculi, for instance, alkalines are indicated while they are useless or do harm in uric acid arthritis. In the arthritis a prurin-free diet is often indicated, but this is an absolute blunder in the chronic anemia and debility of chronic polyarthritis or for asthenic patients with myalgia and neuralgia. The assumption of the uric acid diathesis often blinds the eyes of the physician to the necessity of seeking a psychic cause for disturbances, which may be the only key to proper treatment. On the other hand it is easier to incriminate the uric acid than to convince a patient that he is eating too much, but a radical cure or material improvement is possible only after a suitable anti-obesity or weaning course of dieting.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Der Harn sowie die Uebrigen Ausscheidungen und Körper-
flüssigkeiten von Mensch und Tier. Ihre Untersuchung und
Zusammensetzung in normalem und pathologischem Zustande. Ein
Handbuch für Aerzte, Chemiker und Pharmazeuten Sowie zum
Gebrauche an Landwirtschaftlichen Versuchsstationen. Heraus-
gegeben von Carl Neuberg, Universitätsprofessor und Abteilungs-
vorsteher am Tierphysiologischen Institut der Königl. Landwirt-
schaftlichen Hochschule Berlin. Parts 1 and 2. Paper. Price, 58
marks. Pp. 1823, with illustrations. Berlin: Julius Springer, 1911.

The Surgery of the Diseases of the Appendix Vermiformis
and Their Complications. By William Henry Battle, F.R.C.S.,
Surgeon and Joint Lecturer on Surgery to St. Thomas' Hospital,
and Edred M. Corner, M.A., M.B., M.C., F.R.C.S., Surgeon in Charge
of Out-Patients and the Surgical Isolation Wards to St. Thomas'
Hospital. Second Edition. Cloth. Price, $3 net. Pp. 291, with
100 illustrations. New York: William Wood & Co., 1911.

Die Syphilis im Lichte der modernen Forschung mit beson-
derer Berücksichtigung ihres Einflusses auf Geburtshülfe
und Gynäkologie. Von Dr. Franz Weber, Assistent an der Kgl.
Univ.-Frauenklinik und Privatdozent für Geburtshülfe und Gynä-
kologie an der Universität in Munchen. Paper. Price, 4 marks.
Pp. 128. Berlin: S. Karger, 1911.

Semiologie Réelle des Sections Totales des Nerfs Mixtes
Périphériques. Considérations sur la Technique concernant
l'étude des troubles des sensibilités, les modifications des réactions
vaso-motrices et sudorales, les altérations trophiques ostéo-articu-
laires et cutanées. Par Henri Claude, Professeur Agrégé, Médecin
de l'Hôpital Saint-Antoine et Stephen Chauvet, Interne des Hôp-
itaux de Paris. Paper. Price, 4 francs. Pp. 95, with illustrations.
Paris: A. Maloine, 25-27, rue de l'Ecole-de-Medecine, 1911.

An Attempt to Correct Some of the Misstatements Made by Sir Victor Horsley, F.R.S., F.R.C.S., and Mary D. Sturge, M.D., in Their Criticisms of the Galton Laboratory Memoir: A First Study of the Influence of Parental Alcoholism, Etc. By Karl Pearson, F.R.S. Questions of the Day and of the Fray. No. III. Department of Applied Mathematics, University College, London. Paper. Price, 1 shilling net. Pp. 42. London: Dulau & Co., 37 Soho Square, W., 1911.

Third Annual Report of the Michigan Association for the Prevention and Relief of Tuberculosis. For Ten Months, March 1-Dec. 31, 1910. Containing Statement of Work Accomplished, Report of Convention at Ann Arbor, Report of Local Associations, State Needs, Work of Allied Societies, Report of Secretary and Treasurer. A Brief of the Ten Months' Work. Aldred S. Warthin, Secretary, Ann Arbor, Mich. Paper. Pp. 189.

American Mineral Waters: The New England States. By W. W. Skinner, Chief, Water Laboratory. With a Chapter on Bacteriological Methods by G. W. Stiles, Jr., Bacteriological Chemist. Prepared Under the Direction of J. K. Haywood, Chief, Miscellaneous Division. Bull. 139, Bureau of Chemistry. U. S. Department of Agriculture. Paper. Pp. 111. Washington: Government Printing Office, 1911.

Die perorale Intubation. Ein Leitfaden zur Erlernung und Ausführung der Methode mit reicher Kasuistik. Von Dr. Franz Kuhn, Elisabeth-Krankenhaus in Kassel. Mit einem Vorwort von Dr. O. Hildebrand, Direktor der chirurg. Klinik in der Kgl. Charité in Berlin. Paper. Price, 5 marks. Pp. 162, with 22 illustrations. Berlin: S. Karger, 1911.

A Laboratory Guide in Bacteriology. For the Use of Students, Teachers and Practitioners. By Paul G. Heinemann, Ph.D., Associate in Bacteriology, the University of Chicago. Second Edition. Cloth. Price, $1.50 net. Pp. 210, with 36 illustrations. Chicago: The University of Chicago Press, 1911.

Special Message of Governor Herbert S. Hadley Regarding the Control and Prevention of Tuberculosis, Together with a Report of the Voluntary Commission to the Forty-Sixth General Assembly, 1911. J. Hal. Lynch, Secretary, 625 Locust St., St. Louis. Paper. Pp. 99.

Lateral Curvature of the Spine and Flat-Foot, and Their Treatment by Exercises. J. S. Kellett Smith, F.R.C.S., Late Demonstrator of Anatomy at University College, Liverpool, etc. Cloth. Price, $2 net. Pp. 137, with 82 illustrations. New York: William Wood & Co., 1911.

Handbook of Medical Treatment. A Guide to Therapeutics for Students and Practitioners, with an Appendix on Diet. By James Burnet, M.A., M.D., M.R.C.P., Fellow of the Royal Society of Medicine. Cloth. Price, $1.50 net. Pp. 168. New York: William Wood & Co., 1911.

Die epidemische Kinderlähmung (Heine-Medinsche Krankheit). Von Dr. Paul H. Römer, Abteilungsvorsteher am Institut für Hygiene und experimentelle Therapie in Marburg. Paper. Price, 10 marks. Pp. 256, with 57 illustrations. Berlin: Julius Springer, 1911.

Proceedings of the Thirty-Third Annual Meeting of the Missouri Pharmaceutical Association, Held at Cape Girardeau, June 13, 14, 15 and 16, 1911. Constitution and Roll of Members. Paper. Pp. 167, with illustrations. Henry Whelpley, Secretary, St. Louis.

Transactions of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics. Ninth Annual Meeting, Baltimore, Md., May 7, 1910. Vol. VII. Paper. Pp. 152. Dr. J. F. Munson, Secretary, Sonyea, N. Y.

Memoira Anuario, Correspondiente al Curso Academico (Universidad de la Habana) de 1909 a 1910. Que se Publica en Cumplimiento de lo que Dispone el Inciso *8 del Articulo* 43 de os Estatutos de esta Universidad. Paper. Pp. 263.

Report of Washington State Board of Health on House Bill 211, of the Eleventh Legislature, 1909, Relative to the Establishment of a Sanatorium for the Care and Treatment of Indigent Consumptives. Paper. Pp. 66.

Eleventh Biennial Report of the State Board of Health to the Governor of North Dakota. For the Years 1909 and 1910. Also Registration Report of Vital Statistics. Paper. Pp. 109. J. Grassick, Secretary, Grand Forks, N. D.

Ueber Wernickes Einfluss auf die klinische Psychiatrie.
Von Dr. H. Liepmann, Privatdozent an der Universität, Oberarzt an
der Irrenanstalt Dalldorf der Stadt Berlin. Paper. Price, 1 mark
Pp. 37. Berlin: A. Karger, 1911.

Animal Intelligence. Experimental Studies. By Edward L.
Thorndike, Teachers' College, Columbia University. *Cloth.* Price,
$1.60 net. Pp. 297, with 30 illustrations. New York: The Mac-
millan Co., 1911.

The Inter-Relation of Social Movements. With Information
About Sixty-Seven Organizations. Paper. Pp. 32. New York:
The Charity Organization Department of the Russell Sage Founda-
tion, 1910.

Leitfaden der Akustik für Ohrenärzte. Von Dr. M. Th.
Edelmann, Prof. h. c. der Kgl. techn. Hochschule, München. Paper.
Price, 4 marks. Pp. 116, with 80 illustrations. Berlin: S. Karger,
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THE VISCOSITY OF THE BLOOD

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When a fluid traverses a straight tube of sufficient length the individual molecular constituents arrange themselves eventually parallel to the long axis of the tube. Moreover, the cylinder of fluid does not move forward as one unit, but in such a manner that the central portion attains the greatest speed of flow, while the more external layers show a decreasing velocity from within outward. Thus, the layer of fluid which is in contact with the vessel-wall will show no movement whatever, provided that it moistens the wall.

It must be clear, therefore, that the individual particles composing a fluid must rub on one another. Elements in neighboring layers move at different speeds and while some molecules are separated from one another, new contacts are constantly formed. The movement of the fluid is therefore accompanied by an internal, or molecular friction.

If different fluids of the same temperature are forced through a narrow tube under a constant pressure, the quantities collected within a definite period of time will vary greatly. For example, if distilled water and blood are employed, the water will show the greatest ease of flow, while the blood will escape very much less freely. Similar variations in the volume of flow will be exhibited by any particular fluid, if it is subjected to different temperatures. The flow will be the ampler, the higher the temperature. In the case of distilled water and blood the cause for this phenomenon seems to lie close at hand. As the blood contains by far the greater number of formed elements, its internal friction must be very much greater than that of water. Although a structural peculiarity of this kind would readily explain the difference in the outflow, it would account solely for the quantitative peculiarities of the fluid. In accordance with this view, therefore, that fluid which contains the smallest amount of solids would escape most readily from a capillary tube, and would, therefore, be hindered least by the internal friction. All factors being equal, this purely mechanical explanation holds true in a large number of cases.

It is to be remembered, however, that marked differences in the outflow may also be obtained under certain conditions with fluids of practically the same composition, and differences may be obtained, besides, with the same fluid by exposing it to different temperatures. Many examples are at hand which tend to prove that variations in the volume of flow may also occur when the constituents of the fluid have not been altered numerically. It must be granted, therefore, that the internal friction which determines the outflow, is also dependent in a measure on definite qualitative changes of the particles forming the fluid.

The individual molecules may have suffered chemical or physical changes, increasing their volume or rendering them more adherent to one another. Clearly these changes need not be confined to the surface-layers of the various elements, but may involve the entire mass. Besides causing phenomena of agglutination, a certain agent might also alter the volume of the elements or might even transform the cellular elements into many-sided and sharp-cornered bodies or fragments. Furthermore, these qualitative changes need not be confined to the solids, but may also involve the molecules of water. It seems quite probable that changes in the size and in the internal arrangement of the latter may result with equal ease. Thus, it seems certain that variations in the flow of fluids through a capillary tube may also be caused solely by peculiarities in the character of their constituents—quite aside from any numerical difference.

If the relative amounts of water and solids are taken into account, a fluid is described as "thick" or "thin" (concentrated or dilute) and, if its peculiarity of flow, or better, its consistency, is in question, it is said to be "sticky" or "not sticky." The latter quality of a fluid is spoken of as its viscosity. It is dependent on the force with which the molecular constituents adhere to one another, and bears a direct relationship to the hydrostatic pressure which must be brought to bear in order to separate them. Correctly speaking, therefore, the term "viscosity" should be restricted to that type of internal friction which is caused by the qualitative peculiarities of the molecular components, but such a concise view cannot be taken at all times. For example, if the volume of flow of certain liquids is determined, the differences obtained are ascribed to differences in their "stickiness," while, at the same time, we include among these causative agents also mere changes in the number of the component particles. The exact cause, whether purely quantitative or qualitative, is not readily ascertainable at all times.

It must be evident from the foregoing that the viscosity plays an important part in determining the hydrostatic force necessary to drive a fluid through a system of tubes. In seeking an expression for this peculiarity of a fluid, we are obliged to make reference to the law of Poiseuille,[1] which permits us to determine the outflow quantity of fluids from any capillary tube in accordance with the following formula:

$$Q = \frac{d^4 \quad h}{l}$$

Q, the quantity collected, is directly proportional to the fourth power of the diameter of the tube, and to the height of the pressure, and indirectly proportional to the length of the tube.

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[1] Poiseuille: Ann. de Chim. et de phys. Par., 1843, Series 3, p. 7.

Having in this way established Q for a certain liquid, it is a simple matter to calculate the quantity K, which escapes under the pressure 1, from a tube with the diameter 1 and the length 1, as follows:

$$Q : \frac{d^4 \qquad h}{l} = K : \frac{1^4 \qquad 1}{1}$$

$$K = \frac{Q\,l}{d^4 \qquad h}$$

The value K represents the coefficient K for the fluid examined. Using K as a factor, we obtain:

$$Q = K \frac{d^4 \qquad h}{l}$$

Having ascertained the quantity of fluid which escapes from a definite tube under a definite pressure, the coefficient K may be employed for the calculation of the quantity of liquid which would escape from any other tube under any other pressure. The viscosity of the fluid would be inversely proportional to the coefficient K.

Attempts to make use of the law of Poiseuille in determining the viscosity of the blood were first made by Haro,[2] Ewald,[3] and Levy,[4] but as defibrinated or oxalated blood was used in these tests, the results cannot be justly transferred to the living blood. In fact, I have demonstrated[5] that samples of normal blood rendered fluid by defibrination or by the addition of potassium oxalate, possess a viscosity much below that of the original sample. Although this difference was clearly in evidence soon after the withdrawal of the blood, it became even more manifest, if the above samples were permitted to remain undisturbed for a short time, so that a sufficient opportunity was given to the solid particles to settle. If under these conditions the upper layers of the blood were used for the determination, the viscosity values approached those for water, but became even greater than those for normal blood, if the blood near the bottom of the receptacle was employed.

Real clinical importance can be attached to viscosity values only if "living" blood, i. e., blood as it traverses the vascular channels, is employed. Agents for the purpose of preventing or retarding the coagulation cannot be resorted to, because any substance which will alter the chemical and physical character of the blood, will, in all probability, also change its viscosity. For this reason, it is imperative that determinations of this kind be executed within the time necessary for coagulation, namely, within a period of about three minutes.

A very serviceable method for measuring the viscosity of the "living" blood was finally evolved by Hürthle.[6] Cannulas are placed in both carotid arteries. One of these is connected with a mercury manometer, and the other with a capillary tube of known diameter and length. The latter is surrounded by a jacket through which water of 37 C. circulates. The blood escaping from the tube is collected in a weighing glass, the period during which it flows into this receptacle being indicated by tambours writing beneath the record of a Jaquet chronograph. The blood is actually collected in the glass during a brief period only, varying between one to two minutes, in accordance with its fluidity, but a somewhat longer time is required in addition for several manipulations, inclusive of the quick cleaning of the capillary tube and the cannulas. Several tests must be made in order to obtain a good average value.

The viscosity-coefficient K is ascertained by a calculation, for which the following factors are essential: The specific gravity, the blood-pressure, the duration of flow, the length and the internal diameter of the capillary. K for the blood is then compared with K for distilled water at 37 C.; the latter coefficient amounts to about 4,700. For example, if K for the blood equals the figure 940, then this particular sample of blood possesses a viscosity 5.0 times greater than that of distilled water at 37 C.

Before this method was actually applied to the circulating blood it was proved first of all that the law of Poiseuille is also applicable to pressures showing rhythmic variations,[6] as well as to fluids containing formed elements.[3] By another series of tests Hürthle and I[6] have shown that the blood may be permitted to traverse the capillary tube for a very much longer time than thirty seconds; without that the determination could possibly be endangered by coagulative changes.

The method above described necessitates a complete relaxation of the animal which was secured in all of the earlier experiments of this type by morphin and ether; in the subsequent tests, on the other hand, ether alone was employed. The question as to whether these drugs in themselves produce a change in the viscosity has been answered by me in the negative.[7] The viscosity of the blood in a normal rabbit having been determined, the animal was narcotized with morphin and half an hour later also with ether. The tests made subsequently revealed viscosity-coefficients which were in no way different from those obtained before the administration of these narcotics. The determinations must, however, be completed with a certain speed acquired by practice, because the viscosity increases somewhat in the course of the narcosis. If care is taken to keep the animal in a light, but nevertheless efficient narcosis, this increase will be scarcely detectable during the first half-hour, and this period is sufficiently long for the completion of two or three tests from which good average results may readily be obtained. The subsequent tests are prone to show a slightly increased viscosity, the rise being in a measure proportional to the duration of the narcosis, but, unless the experiment has been protracted, no special allowance need be made for these rises.

The cause of this progressive change in the viscosity must be sought in certain qualitative alterations of the constituents of the blood, induced by the anesthetic. I have endeavored to render these changes more conspicuous by subjecting the animal alternately to different degrees of narcosis.[8] Having completed the first determination of the viscosity during deep narcosis, the second was made during light narcosis and so on; moreover, the different tests were separated by intervals of about ten minutes, so that the differences in the ventilation of the lungs and the blood could become thoroughly established.

It was possible to produce in this manner very definite and regular variations in the viscosity. If the depth of the narcosis was lessened, the viscosity decreased, while on deep narcosis the viscosity again increased. Although well defined in each case, these differences cannot be regarded as of great consequence, because their range was rather limited. For example, in one experiment of this series the coefficient equalled the number 997 during light and the number 942 during deep narcosis; hence, while the viscosity was 4.7 times as great as that of distilled water at 37 C. during light narcosis, it became 5.1 as great during deep narcosis.

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[2] Haro: Compt. rend. Acad. d. sc., 1876, lxxxiii.

[3] Ewald: Arch. f. Anat. u. Physiol., 1877, p. 209, and 1878, p. 536.

[4] Levy: Arch. f. d. ges. Physiol., 1898, lxv, 447.

[5] Burton-Opitz: Arch. f. d. ges. Physiol., 1900, lxxxii, 464.

[6] Hürthle: Arch. f. d. ges. Physiol., 1900, lxxxii, 415.

[7] Burton-Opitz: Arch. f. d. ges. Physiol., 1900, lxxxii, 447.

[8] Burton-Opitz: Jour. Physiol., 1905, xxxii, 385.

Equally conspicuous variations I have also been able to induce by altering the carbon dioxid content of the blood.[9] The animals used for these tests were permitted to breathe alternately either fresh air, or air to which a sufficient quantity of carbon dioxid had been added to produce symptoms of dyspnea. The blood reacted with great promptitude, exhibiting periodically a greater or lesser viscosity in accordance with the amount of carbon dioxid inhaled.

This result naturally invited another series of experiments,[9] by means of which it was established that the venous blood possesses a viscous resistance slightly in excess of that of the arterial blood. In the light of the preceding data it may be inferred that this difference is due in a large measure to the amounts of carbon dioxid present in these two types of blood.

Our attention must also be directed at this time to the experiments pertaining to the inner friction of the blood during asphyxia, made subsequently by Ferrai,[10] Ewart,[11] and Determann.[12] The blood was withdrawn from a convenient distal blood-vessel and was then passed through a viscosimeter. In spite of this marked diversity in the methods, the results show a perfect agreement.

Mention must also be made of the work of Haro[2] and Ewald,[3] who found that carbon dioxid increases the volume of the red cells. It might seem at first that this volume-increase is rendered possible by an osmotic abstraction of water from the plasma or from the serum and that, therefore, any increase in the viscosity would be caused by a "thickening" of the blood. As it has been proved, however, that the carbon dioxid does not alter the viscosity of blood-serum in any measurable degree, we must be dealing here with a volumetric increase of the red cells pure and simple. V. Koranyi and Bence[13] have shown subsequently that this process may readily be reversed by removing the carbon dioxid from samples of blood by means of oxygen, and furthermore, it has been observed by Bence that the high viscosity of the blood in persons suffering from diseases accompanied by dyspnea, may be temporarily lessened by inhalations of oxygen.

Qualitative changes of sufficient magnitude to alter the viscosity of the blood I have also been able to incite by means of alcohol.[14] Solutions in strengths of from 10 to 60 per cent. were introduced, either into the facial vein or into the stomach or the duodenum. Whether injected directly into the circulation, or into the digestive tract, the solutions always rendered the blood more viscous, the effect being particularly pronounced if the alcohol was introduced into the latter channel.

Having proved that the viscosity of the normal blood is lessened by defibrination and also by the addition of potassium oxalate in quantities sufficient to prevent coagulation,[5] I next attempted a series of experiments to portray the influence of variations in the number of the corpuscular elements.[9] Ox-serum of a certain temperature to which an increasing number of red cells of the same animal were added was used for this purpose. By this means it was readily possible to raise the viscosity of the serum to that of the circulating blood. It was also brought out that normal viscosity values are very largely dependent on the number of red cells present and that other solid constituents play only a minor part. This deduction receives an additional support in the results of tests made by me,[15] which showed that blood rendered lake-colored by freezing, exhibits a much lower viscosity than the sample from which it was taken.

I have also sought to establish the rôle of the red cells in the animal by means of phenylhydrazin.[16] If injected subcutaneously, this agent incites in the course of two or three days a marked reduction in the number of the red cells. For this reason I expected to obtain a decided decrease in the viscosity, but as, in spite of the lessened number of reds, the values remained considerably above the average, the phenylhydrazin must cause in addition certain qualitative alterations which are more influential than those of purely quantitative origin. It is also conceivable that the disintegrating corpuscles acquire an uneven and angular outline and would on this account be prone to adhere more firmly to one another.

I have also demonstrated that the addition of moderately large quantities of normal saline solution or distilled water to the circulating blood lessens the viscosity.[14] It is to be noted, however, that the decrease is not in evidence if the amount injected is small. This is particularly true of distilled water. Apparently, small quantities of these fluids (5 c.c.) are not sufficiently powerful to neutralize the progressive increase caused by the narcosis. In the case of distilled water, it is also probable that this agent incites deleterious osmotic changes which in reality would tend to favor the rise in the viscous resistance dependent on the anesthesia. When, however, the quantities injected surpass a certain minimum, the influence of the narcosis is overcome and an immediate decrease in the viscosity, due to the thinning of the blood, is the result.

Closely related to these tests are those dealing with the effect of hemorrhage.[7] A loss of blood amounting to about one-fourth of the total quantity, caused a material reduction in the viscosity within half an hour after the bleeding. This result is readily explicable on the basis that the blood lost is soon replaced by an inflow of tissue-lymph. We obtain, therefore, in this case an increase in the watery constituents of the blood and hence a lessened viscosity.

By another series of tests it has been established by me that the viscous resistance of defibrinated blood is subject to changes in temperature.[5] Every increase between 15 and 40 C. produced an immediate and decided rise. The same results were obtained with blood-serum,[5] but with this difference, that the viscosity of the latter increased more rapidly with higher temperatures, while the rises in the case of defibrinated blood were more equal throughout. Blood-serum behaves, therefore, like water or watery solutions.

In accordance with these results it was thought possible that the viscosity of the circulating blood could also be varied by subjecting the animal as a whole to changes in temperature. To test this assumption a number of experiments were made on dogs, while they were submerged in water of 43 C., or in water of 23 C. Other tests were performed on dogs placed in a compartment through which a constant stream of dry hot air could be passed.[17] These experiments proved conclusively that the viscosity of the blood reacts very sharply to outside influences of this kind. The cold-water baths increased and the warm-water baths decreased the viscosity very considerably, the effect being clearly in evidence during the first ten to fifteen minutes after the beginning of the bath. Hot-air baths on the other hand, did not render the blood less viscous, as might be supposed, but more so. This result may well be accounted for by the loss of water which a body, subjected to this treatment, must necessarily suffer. Using a different method, Lommel[18] has repeated these experiments on human beings and has obtained results identical with the above.

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[9] Burton-Opitz: Arch. f. d. ges. Physiol., 1908, cxix, 359. Preliminary notice in Proc. Soc. Exper. Biol. and Med., Dec. 16, 1903.

[10] Ferrai: Arch. di Fisiol., 1904, i. 305.

[11] Ewart: D. Sc. Dissertation, Liverpool, 1904.

[12] Determann: Ztschr. f. klin. Med., 1906, lix, 283.

[13] Koranyi and Bence: Arch. f. d. ges. Physiol., 1905, cx, 513.

[14] Burton-Opitz: Jour. Physiol., 1904, xxxii, 8.

[15] Burton-Opitz: See Note 9. Compare Brown, Royal Infirmary Reports, 1904, and Winter, Dissertation, Breslau, 1907.

[16] Burton-Opitz: Arch. f. d. ges. Physiol., 1906, cxii, 6.

[17] Jour. Exper. Med., 1906, viii, 59.

In view of the results described previously one might readily be led to believe that rises in body-temperature caused by a microbic infection, would also lessen the viscosity. A number of determinations which I made on dogs during experimental typhoid[19] have shown, however, that a change of this kind does not necessarily occur during fever. The viscosity-values to which reference is had at this time were in reality somewhat higher than the average. It seems possible that the effect of the increase in body-temperature is offset by certain qualitative changes incited, probably, by the toxins.

In the course of the winter of 1903, I had occasion to determine the viscosity in two dogs whose thyroid glands were greatly enlarged. In both animals extremely low values prevailed.[19]

Fanno and Rossi[20] have confirmed my observations as to the influence of the thyroid. These authors assume, moreover, that the thyroids, and especially the parathyroids, furnish an internal secretion, the purpose of which is to alter the chemico-physical condition of the blood, or, in other words, to adjust its viscosity.

In seeking a standard for the viscosity of the blood, use has been made of the viscosity of distilled water which, at a temperature of 37 C., shows the value of 4,700. This figure being regarded as one, it must be clear that the viscous resistance of any fluid of greater concentration must be expressed in terms of multiples of one. As has been stated before, the viscosity of the blood differs even in individuals of the same species. On a mixed diet dogs showed the average coefficient of 950. The viscosity of this type of blood is, therefore, five times greater than that of distilled water at 37 C. Marked variations are present even under normal conditions. Thus, it was also possible to produce changes by feeding. When food was withheld the viscosity decreased, while continued feeding with meat induced high values. After an exclusive intake of fat or carbohydrates the viscosity showed intermediate values.[7]

The experiments on rabbits proved that the blood of these animals is also influenced by feeding. The coefficient K showed the average value of 1,346, the viscosity of rabbits' blood[7] is, therefore, only 3.4 times greater than that of distilled water at 37 C. The blood of the cat possesses an intermediate resistance, and again, the blood of the turtle or of the frog[21] possesses a viscosity very much below that of the rabbit.

This regular decrease of the viscosity, occurring as it does in complete harmony with the concentration of the circulating fluid, quite naturally leads to a consideration of the relationship existing between this peculiarity of the blood and the specific gravity. The concentration of a fluid and its specific gravity being in a large measure synonymous, it might be assumed at first thought that the viscosity must increase and decrease with the specific gravity. On this basis the determination of the viscosity would indeed be superfluous; at least such a procedure would no longer be necessary, so soon as definite comparative values for the viscosity and for the specific gravity had once been established. Thus, having gained accurate data regarding the concentration of a fluid by one method or another, we could easily deduct from these the necessary facts pertaining to the viscosity.

Although such a procedure is permissible in a large number of cases, it is not always infallible. While in general it may be said that the specific gravity and the viscosity of the blood pursue a parallel course, such a close relationship is not always clearly in evidence. It happens quite frequently that a sample of blood having a low specific gravity, possesses a high viscosity, and *vice versa,* and hence, the factors aforesaid are at times inversely proportional to one another. The qualitative and not the purely quantitative changes in the blood must be held responsible for this discrepancy.

It has been stated in one of the preceding paragraphs that the viscosity of the normal blood of the dog is five times greater than that of distilled water at 37 C. All factors being equal, the heart must, therefore, exert a force five times greater than that necessary to drive water through the circulatory channels. Herein lies the dynamic importance of the viscosity. I have found values considerably higher and lower than this average value, but one example in particular may serve to illustrate the significance of the viscosity more fully. During one of the experiments with chloroform a viscosity more than ten times greater than that of distilled water at 37 C. was found to prevail, and hence, it may be conjectured that in order to drive this type of blood through the vascular system, the heart was called on to more than double its power.

While a temporary increase in the viscosity may not impair the dynamics of the circulation in any serious way, a permanent change, on the other hand, might affect not only the condition of the heart, but also that of other organs. Thus, it seemed probable that one of the causes of cardiac hypertrophy might lie in the increased peripheral resistance caused solely by a greater "thickness" of the blood. Such considerations as these clearly showed at an early date that the viscosity of the blood must have an important clinical bearing; in fact, the part which this factor plays in disease was regarded as quite equal to that of the specific gravity and the number of the red cells.

It cannot surprise, therefore, that the first papers regarding the viscosity of the blood of animals as outlined above, were soon followed by attempts to determine this factor for the "living" human blood. Clearly, the elaborate but exact method of Hürthle could not be applied to persons. The only procedure for obtaining at all reliable results consisted in the quick removal of a small quantity of blood from a distal part and in the hurried passage of it through a viscosimeter. Even hirudin, a substance used to prevent the coagulation of the blood after its withdrawal, seemed to be contraindicated, because any agent which will alter the state of the blood to this extent, cannot be expected to leave its viscous resistance unchanged.

Using a U-shaped glass capillary very similar to the one employed by Ostwald in his determination of the inner friction of various fluids, Hirsch and Beck[22] made

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18. Lommel: Arch. f. klin. Med., 1904, lxxx, 308.
19. Zentralbl. f. Physiol., 1904, xviii, 493.
20. Fanno and Rossi: Arch. di Fisiol., 1905, ii, 609.
21. Burton-Opitz: Am. Jour. Physiol., 1902, vii, 243.
22. Hirsch and Beck: Arch. f. klin. Med., 1901, lxix, 503; lxxii, 560.

the first successful experiments with human blood. These authors obtained the coefficients 4.73 to 5.89 at a temperature of 38 C. These values imply that the viscosity of the human blood is 5.1 times greater than that of distilled water of 38 C. It is to be noted, however, that the blood was obtained from a distal part after venous stagnation by the procedure of venesection. We have seen previously that a superfluity of carbon dioxid increases the viscosity, and hence, it seems entirely probable that the values cited here are slightly in excess of those actually existing. Bence, who employed a similar method, gives an even higher average value, namely, 5.4. Hirsch and Beck also examined the blood of patients suffering from nephritis, but were unable to draw any definite conclusions.

During the winter of 1903 I used in this laboratory a U-shaped capillary glass tube, one end of which carried a funnel-shaped enlargement for the reception of the fluid to be tested, and the other a bulb large enough to contain 1 c.c. of it.[23] To begin with, the funnel of this viscosimeter was filled with distilled water. Gravity being used as the driving force, the time was determined which was required to fill the bulb. Human blood from a small cut in the end of a finger or in the lobule of the ear, was then permitted to drop into the receiving cup of this viscosimeter. Naturally, the time necessary for the collection of 1 c.c. of blood was very much longer than that required for the filling of the bulb with distilled water.

A few years later I made use of a glass tube similar to the one employed for the counting of the red cells.[24] The human blood, freshly collected in a small receptacle, was drawn into this tube by a constant suction. The index of the viscosity was obtained by ascertaining the difference in time necessary to fill the bulb with blood and with distilled water. Heubner[25] used an Ostwald viscosimeter, but prevented the coagulation of the blood by hirudin or by cooling, a procedure which seems open to objections. Hess[26] constructed an instrument by means of which he obtained values ranging between 3.75 and 5.75, and the average coefficient 4.6.

The experiments here cited show on the whole a relationship of 1 : 5; hence it may be said that the viscosity of human blood is about five times greater than that of distilled water. Human blood possesses, therefore, very nearly the same viscous resistance as the blood of the dog. It must be remembered, however, that in the early experiments with the dog the blood was taken directly from central channels, while in the case of human blood peripheral blood-vessels were tapped. It seems entirely probable that physical factors may cause a slight discrepancy, in that the blood circulating through capillary areas may be somewhat less concentrated than that contained in the larger channels. For this reason it is possible that the "molecular friction" of the arterial blood in and near the capillaries is less; however, the difference would be slight in all cases.

O. Müller[27] has recently succeeded in reducing the viscosity of human blood by means of potassium iodid, and it seems fair to assume that this salt produces this effect, not by its mere presence, but by a direct action on the blood. Romberg[28] attributes the beneficial action of this salt in arteriosclerosis to its power of lessening the viscosity.

It can readily be gathered from the foregoing that the employment of a viscosimeter meets with many obstacles. Although the results have been gratifying in so far as normal viscosity-values have been established for the human blood, it seems doubtful whether this method will ever be perfected in a way that small variations can be accurately and safely recorded. Great clinical value can hardly be attached to a method that will depict solely such changes in the viscosity as occur, for example, during leukemia or polycythemia. Other more simple means can be employed with greater safety for the purpose of diagnosing these conditions. Nor do the limitations lie wholly in the method. One of the gravest obstacles encountered in establishing slight differential values, exists in the variability of the viscosity itself.

Reference must finally be made to the dynamic effect of the viscosity on the blood-flow. Clearly, other factors remaining constant, the magnitude of the flow must become greater the less the viscous resistance. The reverse relationship must also exist.

This view, founded on the belief that the law of Poiseuille applies not only to rigid tubes, but also to the vascular systems of animals, has been severely criticized by Heubner.[25] The objections of this author have been overcome, however, by the experiments of du Bois-Reymond, Brodie and Müller.[29] Certain organs, freshly removed from the body, were perfused with defibrinated blood. While the quantity escaping was accurately determined, the viscous resistance of the perfusion-fluid was either lessened or increased.

These experiments showed unmistakably that the blood-flow changes in harmony with the viscosity. If the latter increases, the flow decreases proportionately. This parallelism establishes, therefore, the applicability of the law of Poiseuille to the diverse elastic tubules of the vascular system.

While no doubt the viscosity may play a very important part under certain conditions, it must also be said that clinicians have attached altogether too great an importance to it. To be sure the viscosity can develop into a mighty circulatory factor, but only when other dynamic conditions favor its development. Ordinarily, the effect of the viscous resistance is no doubt readily neutralized. Thus, an increase in the viscosity does not always call for a greater activity of the heart, because an enlargement of the vascular channel will serve equally well to keep the magnitude of the blood-flow constant. Normally, therefore, we have the various vasomotor reactions by means of which changes in the viscous resistance of the blood can be fully equalized and overcome. Only if this nervous mechanism is rendered more or less sluggish by disease or otherwise, can the viscosity exert a more powerful influence.

The effect of the viscosity may also be upset by the driving force. Changes in the frequency and the power of the heart will fully compensate for any alteration in the viscous resistance of the blood.

It may be said that the blood-flow is dependent on three factors, namely, on the driving force, on the peripheral resistance as formed by the size of the distal blood-bed, and on the viscosity. Normally, all three influence one another constantly, the flow being the product of all three. Although I believe that the viscosity is the weakest of these three dynamic forces, normally, I do not wish to emphasize this point too strongly. At all events, regarded in the manner described above, the viscosity represents an independent dynamic power which, although slight normally, will become overwhelmingly great, if other factors favor its development.

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[23] A similar tube was subsequently employed by Dunning and Watson, Proc. Roy. Soc., London, 1906, lxxviii, 328.

[24] Burton-Opitz: Proc. Soc. for Exper. Biol. and Med., Dec. 19, 1907.

[25] Heubner: Arch. f. exper. Pathol., 1905, liii, 280.

[26] Hess: München. med. Wchnschr., 1907, No. 45. Still more recently a viscosimeter has been described by Münzer and Bloch, Med. Klinik, 1909, No. 9.

[27] Müller: Deutsch. med. Wchnschr., 1904, p. 1751.

[28] Romberg: Kongress ber. inn. Med., 1904, p. 60.

[29] Arch. f. Anat. u. Physiol., 1907 (Suppl.), p. 37.

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THE PERPENDICULAR PELVIS IN THE HUMAN FEMALE AS AN INDEX OF RETARDED DEVELOPMENT IN ITS SOFT PARTS

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For five years, in the examination of women, I have carefully observed the relation of the axis of the pelvis to the perpendicular axis of the body, and noted the bearing of this relation on the developmental conditions of the soft parts attached to the bony structure. These examinations have not always been made with as much accuracy or system as should have been observed for the purpose of arriving at facts to establish scientific conclusions, but the observations have been conscientiously conducted and the conditions found have convinced me that my facts are sufficiently conclusive and practically suggestive to justify me in presenting them to the profession.

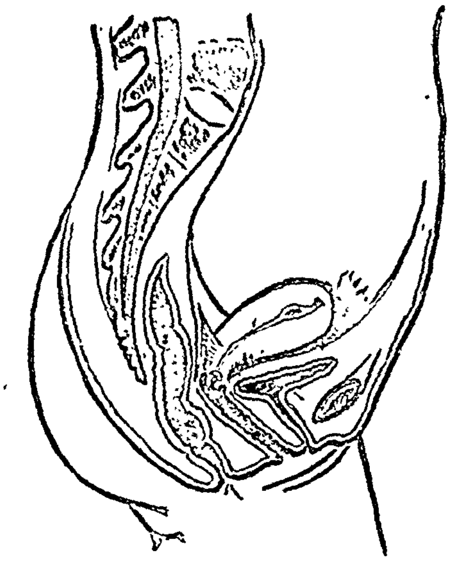

Fig. 1.—(W. J. S. McKay). Approximately normal pelvis. The soft parts are not correctly drawn to represent the normal position. The cervix of the uterus should occupy a higher position nearer the hollow of the sacrum. The whole floor of the pelvis should be higher and more in line with a line drawn from the lower border of the symphysis and the tip of the coccyx.

In the approximately normal pelvis the upper plane has an inclination of between 55° and 60° with the horizon, and the lower plane an inclination of from 5° to 10° with the horizon, each plane looking upward and forward.

A profile of the pelvis shows the sacrum with a backward tilt and the tip of the coccyx occupying a position 3½ inches posterior to a perpendicular line falling from the promontory of the sacrum (Fig. 1). The axis of the true pelvis, represented by a curved line corresponding to the anterior surface of the sacrum between the external and internal planes at their center, has an inclination of approximately 50° with the horizon, or fully 40° with the axis of the spinal column. Slight variations of inclination of the pelvis from these arbitrary figures occur without peculiar significance, and even the change in position of the individual may change the inclination of the pelvis with the long axis of the body several degrees. Approximately, however, the range of figures given will cover the normal adult female during her menstrual years if the observation is made with the individual standing in the military attitude.

Variations from this normal inclination of the pelvis occur in two directions, both of which, as they become exaggerated, point to important departures from health and strength; one variation being the exaggerated direction of the pelvis backward, giving rise to an abnormal lordosis; the other variation being less dipping of the pelvis, giving rise to a perpendicular pelvis and thus eliminating correspondingly the depth of the lumbar curve of the spine. It is of the latter or the perpendicular pelvis that I wish to speak.

From the beginning of the discussion of Glenard's disease until now, attention has been called repeatedly to the form of the skeleton bearing a certain relation to visceral prolapse. In 1907 (*Surgery, Gynecology and Obstetrics*, Vol. IV, page 167) I endeavored to establish the fact that the coincidental existence of the peculiar skeleton form and abdominal visceral prolapse was definitely an evolution or individual retardation of development. In that article I pointed out definite developmental defects of the abdominal viscera, as I had observed them in abdominal sections in my routine surgical work (Figs. 2, 3 and 4). Continued observation has only strengthened my belief in the importance of the skeleton variation in pointing to coincidental visceral and muscular irregularities. This is particularly true in connection with variations in the pelvis. The perpendicular pelvis is one of the peculiarities of the skeleton defects that I covered in the paper already quoted.

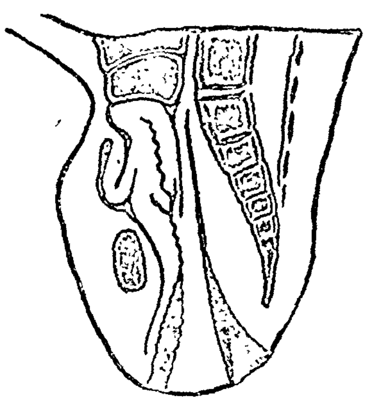

Fig. 2.

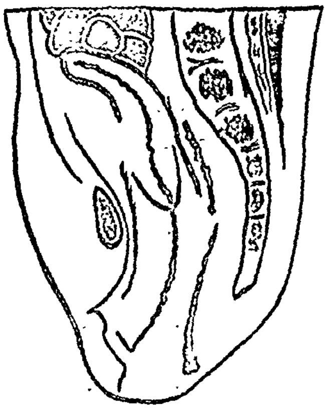

Fig. 3.

Fig. 2.—(J. C. Webster). Vertical mesial section of six months' fetal pelvis. The pelvic skeleton has not rotated, showing the perpendicular type. Retarded development often leaves the adult pelvis in this condition.

Fig. 3.—(J. C. Webster). Vertical mesial section of fetal pelvis at eight months' gestation. Note the perpendicular pelvis, not yet rotated. The rotation is more than in Figure 2, representing six months' gestation, and less than in Figure 4, representing term or birth.

The defects of the soft parts of the pelvis that I have definitely observed as coincident with the failure of the pelvis to rotate are peculiarities in the following parts:

1. Peritoneum
2. Uterus
3. Bladder
4. Ligaments
5. Rectum
6. Pelvic floor
7. Muscles
8. General appearance

I. PERITONEUM

The most striking peculiarity of the peritoneum which to my mind marks a failure of development in the normal perfection of the individual, is a distinctness of this membrane from the underlying tissue, which gives it the appearance and feel of looseness of attachment, and makes it easy to pick up in folds between two fingers. Its color is darker than the fully developed human peritoneum, slightly blue in color rather than pink, and has a glistening, polished appearance rather than the normal dull aspect. This is independent of the amount of subperitoneal fat, as when fat exists, it, like the subperitoneal connective tissue, is easily separated from the peritoneum, while in the normal it is almost inseparable.

In such cases these characteristics of the peritoneum are particularly noticed on the round ligaments, over the broad ligaments, and on the surface of the bladder.

Another noticeable peculiarity of the peritoneum is its relation to the uterus and the broad ligaments, and in its covering of the deep tissues, such as the ureters, the round ligaments, the sacro-uterine ligaments, the bladder, and even the lower bowel, viz: a tendency to furnish a pseudomesenteric attachment for these various structures, causing them to stand out, as is frequently seen in the lower animals.

II. UTERUS

This organ gives definite evidence in these defective cases. The sulcus between it and the bladder is deep and wide. The fundus occupies a position back of the median line of the axis of the already too perpendicular pelvis. Its broad ligaments are loose and thin and the posterior surface of their pelvic deflections are attached back of the axis of the pelvis instead of slightly in front, as is the case in the normal, and their anterior deflections forward on to the pelvis are too close to the posterior layers and widely separated from the layer that covers the round ligament (thus giving those ligaments the distinction of a mesenteric attachment referred to above), while this anterior layer should blend with the peritoneum covering the round ligaments and should form its attachment to the pelvic wall well forward in order to give the uterus a support well in front of the axis of the pelvis.

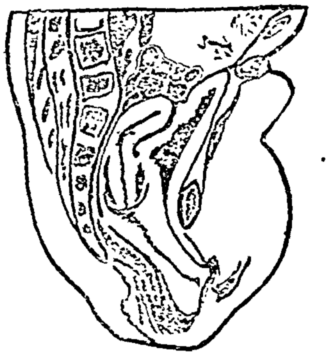

Fig. 4.—(J. C. Webster). Vertical mesial section of fetal pelvis at birth. Rotation is beginning and the tip of the coccyx is elevating and rotating backward, showing a tendency toward the normal tilting.

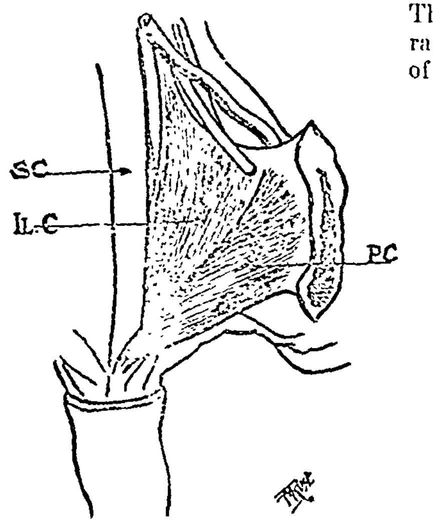

Fig. 5.—(Peter Thompson). Flexor muscles of tail of monkey. Left side from within. SC, sacrococcygeus; IIC, iliococcygeus; PC, pubococcygeus.

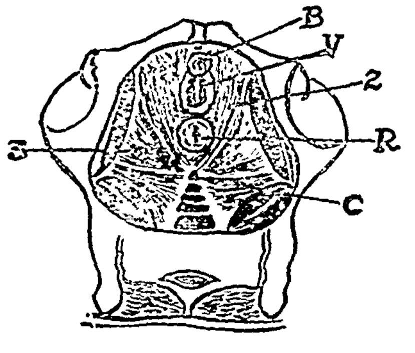

Fig. 6.—(J. C. Webster). Muscular floor in human female denuded of its fasciæ. B, neck of bladder; V, vagina; 2, anterior fibers of levator ani (pubococcygeus muscle); 3. lateral fibers of levator ani (obturator coccygeus muscle); R, rectum; C, coccyx.

Inspection of the cul-de-sac of Douglas in these cases demonstrates two distinct folds of peritoneum passing around a detached lower bowel, covering exaggerated sacro-uterine ligaments which usually have become inordinately stretched. In the normal, the rectum is buried, its mesentery has been obliterated, the peritoneal folds around the rectum blend with it, the cul-de-sac is closed and the round ligaments are scarcely perceptible, while the cervix is snugly held in the hollow of the sacrum.

The central loose attachment of the broad ligaments in these perpendicular pelves and the long uterosacral peritoneal attachment gives the uterus a perpendicular position which readily forecasts its future behavior.

III. BLADDER

One of the most characteristic signs of arrested development in these cases is the peculiarity of the bladder. It appears, according to the degree of the defect, a more or less pedunculated sac covered with a blue, crinkly, loose peritoneum, instead of the normal sessile sac, almost obliterated beneath a broad, closely attached peritoneum of pinkish color.

IV. LIGAMENTS

1. In the well-developed woman the urachus is practically obliterated. In the defective type this embryonic vestige is relatively conspicuous and lies as a loose cord beneath the peritoneum. Occasionally the arrest of development is so early that it remains a patulous tube. The size of the urachus is in inverse ratio to the completion of development of the individual.

2. The round ligaments present definite evidence of developmental conditions. Normally they are well buried beneath the peritoneum, are large and muscular and sweep well in front, reaching the parietal peritoneum well forward in a manner that broadens the peritoneal attachment of the pelvic end of the broad ligament. Its peritoneal covering is practically continuous with that of the balance of the broad ligament, the two together making a wide blending of the broad ligament well in front of the axis of the true pelvis and definitely determining the top of the uterus forward. In the defective type the round ligament is small, is easily picked up with its peritoneum, reaches the parietes in a line near the axis of the pelvis instead of well forward of it, and instead of being a portion of a broadly attached broad ligament is separated from that ligament by a deep sulcus. The uncovered ligament is thin, rudimentary and with little muscular tissue.

3. In the well-developed woman the sacro-uterine ligament is practically *nil* as a true ligament. It is an unnecessary structure in these cases because of the close attachment of the lower bowel, and the high deflection of the peritoneum back of the cervix, to the sacral parietes of the pelvis. When the sacro-uterine ligaments stand out as distinct structures beneath loose folds of peritoneum, a defective blending of the accompanying structures just referred to may be observed.

4. As already touched on in my remarks on the peritoneum, the broad ligaments vary much according to the developmental state of the individual. The attachment of the broad ligament in the defective individual is in line with the axis of the pelvis instead of well in front of that line, first, by the posterior layer of the broad ligament being deflected on to the pelvis farther back than normal, and second, on account of the base or the pelvic attachment of the broad ligament being much narrower; third, because the broad ligament is much looser in structure and contains less connective and fatty tissue; the peritoneal layers are longer and hang in folds, and finally, the anterior layer of the peritoneum comprising the broad ligament, is not deflected well forward of the axis of the pelvis as it blends with the parietal peritoneum.

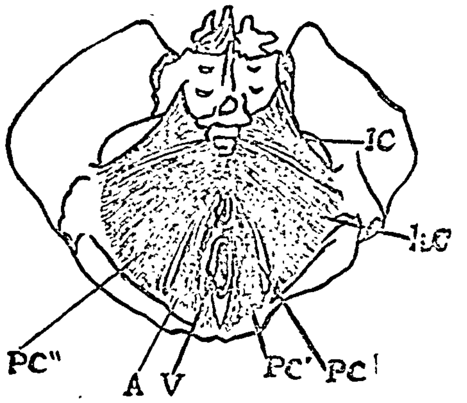

Fig. 7.—(Peter Thompson). The floor of the human female pelvis from below. Note the powerful puborectalis and coccygeus which surround the vagina and swing the rectum and vagina toward the pubis (PC). These muscles in the defective human female are not present, or are very imperfectly developed. A, anus, V, vagina; PC', pre-anal fibers of pubococcygeus; PC", puborectalis; IIC, iliococcygeus; IC, coccygeus.

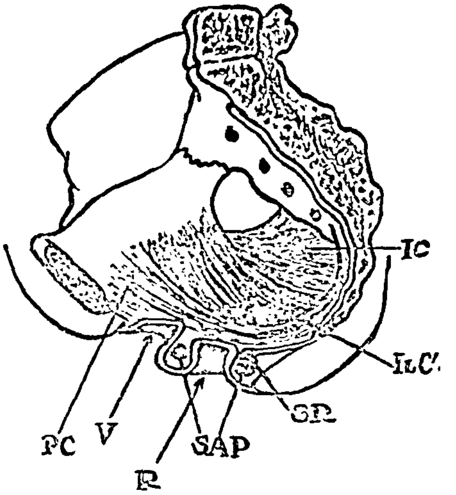

Fig. 8.—(Peter Thompson). Section of pelvis showing pelvic diaphragm of fully developed human female. V, vagina; R, rectum; IC, coccygeus; IIC, raphe formed by iliococcygei; SR, sphincter recti; SAP, sphincter ani externus profundus; PC, pubococcygeus.

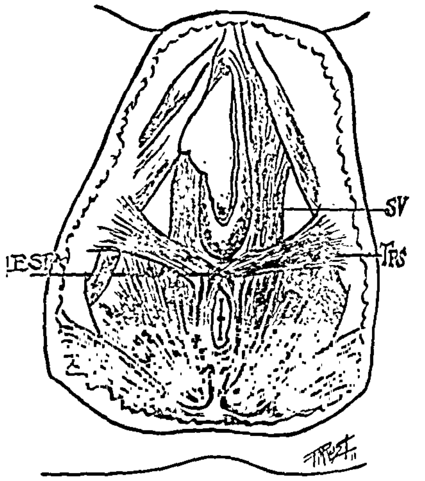

Fig. 9.—(Peter Thompson). Muscles of perineum in human female. SV, sphincter vaginæ; TPS, transversus perinei superficialis; ESP, sphincter ani externus profundus. The puborectalis is one of the muscles that often fails to develop in the defective female. The transversus perinei is another muscle that often fails to differentiate. The absence of these muscles makes a notable weakness in the pelvic floor.

The ligaments binding the different bones of the pelvis together are sometimes noticeably loose in their attachment, giving rise to perceptible movements between their parts.

V. RECTUM

In the well-developed adult the rectum possesses no mesentery for a considerable distance above the cul-de-sac of Douglas, this having disappeared in the process of development and being replaced by a broad attachment of the posterior wall of the viscus to the connective tissue on the anterior surface of the sacrum. The peritoneum, however, covers the anterior portion of the rectum until it leaves it as it is deflected forward to line the bottom of the cu[illegible]-de-sac of Douglas. In retarded development, however, the rectum will persist in a mesentery and the cul[illegible]-sac of Douglas is frequently deeper than normal, the[illegible] depriving the posterior wall of the vagina of its norm[illegible]igh attachment to the firmly anchored rectum, and lea[illegible] a loosely attached cervix uteri. It is in these cases that two loose folds of peritoneum some distance above the cul-de-sac encircle the rectum and give dignity to the sacro-uterine ligaments.

VI. PELVIC FLOOR

Next to the observance of the straight spine, or the showing of a radiograph, nothing is more significant of the developmental defect characterized by the perpendicular pelvis than the simple inspection of the external portion of the floor of the pelvis as the patient lies on the examining table in the horizontal position with limbs slightly flexed and knees separated, with feet supported on stirrups at the level of the examining table. The contour of the presenting floor is unnaturally long anteroposteriorly, giving an oval appearance. The coccyx end of the oval projects further over the end of the table than the pubic end. The labia majora are long and narrow and the vaginal opening is situated far back instead of just beneath the pubis, and if the labia are slightly separated, the vagina will be shown gaping or open. Farther toward the coccyx, projecting beyond the vagina, is the anus, also too far back, with a pointing rim of integument around it, and still farther from it, a slight pouching of the posterior portion of the floor of the pelvis generally. From the sides of this sacculated, loose, unnatural protruding floor, bow off flat, atonic gluteal muscles.

On careful analysis of this not uncommon appearing floor of the pelvis (see floor of pelvis in the fetus as shown in Figures 2, 3 and 4), we readily see that the lower end of the spine projects an unnatural distance beyond the symphysis instead of occupying a position above it as in the normal individual. The vulvar opening is located posterior to its normal position and on a plane below a line drawn from the symphysis to the coccyx: its posterior wall is separated from its anterior wall while in the normal the vaginal opening is immediately beneath the symphysis, the posterior vaginal wall snugly hugs the anterior wall and there is no protruding of its mucous membrane.

The anus in the normal does not appear as a projecting point on a protruding sac hanging sling-like below the coccyx and the symphysis, occupying a position near the coccyx, but is well forward near the center of the floor of the pelvis (Fig. 1), on a plane level with the symphysis, with its margin firmly contracted, constituting the center of a well-protected floor, having the appearance of adequacy and strength.

What is the explanation of this important difference in the floor of the human female pelvis?

It is the difference produced by arrest of development of the muscles and fascia of the human pelvis before they reached the perfection necessary to the assumption of the new duties that must be assumed by the pelvic floor of an animal occupying a perpendicular position (Figs. 2, 3 and 4), and those muscles and mechanisms which have attained the development that fits them to support the human pelvic floor and its superimposed load.

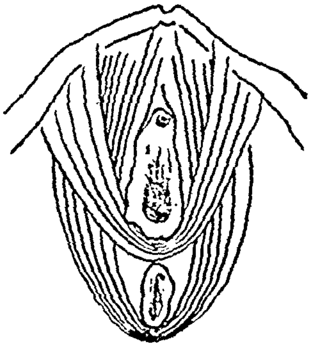

Fig. 10.—The transversus perinei.

Even a cursory study of the comparative anatomy of the pelvis of the higher and lower animals affords us a simple explanation of the phenomena of the defective pelvic floor depicted above.

In the lower vertebrates, with few exceptions, like the seal, the kangaroo or other animals that frequently assume the vertical position, and of course the higher monkey families, the levator ani proper, that is, a muscle of support for the rectum, does not exist, but appears as the tail muscle, its principal function being the management of that caudal appendage (Fig. 5). As the tail disappeared and the higher animal developed, with a disposition to assume the perpendicular, the levator ani remained attached to the coccyx and the *sides of the sacral* vertebra, and extended its other pelvic attachments forward from the ischium as *far as the pubis*, and while it constituted itself in this extension an upper *floor* or second diaphragm to the pelvis it also *assumed* other functions. Of course, this change added the important function of supporting the superimposed viscera. As the rectum became a perpendicular tube, its *upper* portion required additional support, and this was afforded by this tail muscle through *which it passed* and the pubic extension in the form of *a new muscle*, the puborectalis, which extended from the pubis *to the* rectum, and after combining with the extension backwards (the pubococcyx) grasped the rectum in a sling (Fig. 6). These muscles elevate the rectal tube and the anterior *one, the puborectalis*, elevates it and draws it toward the pubis while the two together are powerful *factors* in elevating the whole human pelvic floor.

It is this powerful anterior mass of muscles of the levator ani that can be *felt ¾ of* an inch above the vulvar outlet on either side of the vagina, and that supports or swings the vagina well forward *beneath* the pubis. This whole tail muscle when it is developed *to* the human needs makes a veritable second floor to the pelvis (Fig. 7).

When these muscles fail to *develop* to their highest perfection, the anterior fibers, which are so important to the support of the human pelvic floor, are the first to fail, as they are the last to develop, and the picture of the projecting floor with pouting anus and open vagina is presented (Fig. 8).

Below the levator ani proper, beneath the integument, we get the external sphincter and more superficial muscles of the pelvic floor. The sphincters of the rectum and the vagina which penetrate in the human alone, the portion of the trunk that practically supports the entire contents of the abdomen, viz., the floor, must *of necessity* be relatively much stronger than in the animals in which vaginal and rectal outlets are not subjected to this additional strain. In the well-developed woman this is the case. The sphincter ani in the human being is a thick muscle extending around the anus for a height of an inch or more; it is divisible into three layers, the external encircling the anus decussating forward and back, the middle attaching it to the coccyx, the only primitive arrangement left, and in front joining the vaginal sphincter and on the sides reaching the spines of the ischii. The deep layer, thick and strong in the human, joins with the levator ani fibers of the puborectalis and coccygeus (Fig. 9).

The transversus perinei, which is rudimentary in some lower vertebrates, becomes a real entity in the perpendicular individual. It is a double bundle of fibers, deep and superficial on either side of the perineum, decussating between the anus and vulva and finding attachment to the rami of the ischium and the white line in front of it (Fig. 10).

Thompson found the muscle absent in 46 per cent. He quotes Lesshaft as finding it absent in eighty cases; on both sides in 23 per cent. and on one side 68 per cent. According to Hall, quoted by Thompson, these muscles are derived, too, from the levator ani. The sphincter vaginæ superficialis is a muscle *that is rudimentary* in all but the most highly developed females.

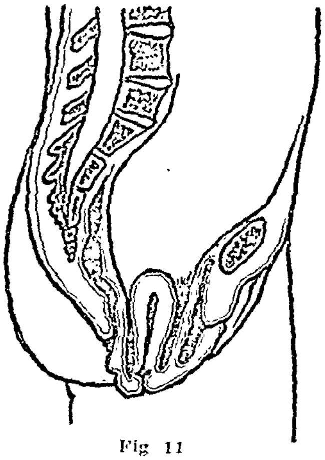

Fig 11

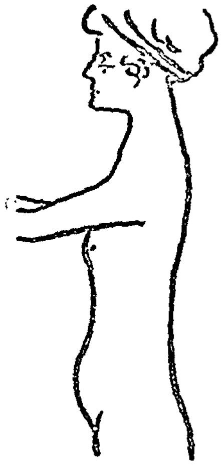

Fig. 12.

Fig. 11.—(W. J. S McKay). Showing inevitable tendency of uterus and pelvic floor in congenitally defective female. The perpendicular pelvis subjects the pelvic contents, *including* uterus, to a disadvantageous pressure, and the defective development of the muscles and fasciæ of the pelvic floor offers no resistance to the misplaced uterus.

Fig. 12.—*The* congenitally defective type. Note straight back, perpendicular pelvis, projecting lower abdomen. These individuals have flat chests, long arms and narrow costal arches and are usually referred to as the "*neurotic type.*" (*Drawn* from photograph from life.)

When these human muscles of the pelvis fail to differentiate and fail to develop from the tail muscle of the inferior vertebrate, the floor of the *pelvis in that* particular individual is incompetent and presents the pointed floor with its gaping openings.

VII. MUSCLES

Another evidence of the lack of higher differentiation in these cases is the lack of firm and adequate development of the voluntary muscles of the lower abdomen, external pelvis and thighs which play such an important part in maintaining the individual in the erect position. The strong pyramid of muscles immediately above the pubis are represented by soft yielding structures that soon give way and give rise to a marked projection of the abdominal wall. The gluteal muscles are flat, soft and weak and these, with the thin thigh muscles, present a picture of weak mechanism unsuited to their task.

VIII. GENERAL OUTLINE

These individuals of the defective type exhibit evidences of their characteristics that are unmistakable. The defective skeleton is connected with soft and defective ligaments; the defective muscles, whole fasciculi and even whole muscles of which may be absent, are held together with defective layers of fascia, and are terminated with defective tendons. The connective tissue and the fat deposits are defective and the skin covering all is loose, discolored and coarse. Its very appearance is uninviting, as it is unnatural and inadequate (Fig. 12). It is an animal predestined to failure in its higher attributes because its functions are those of the higher biped while its mechanism is that of a quadruped.

CLINICAL SIGNIFICANCE

Back of it all, the neurologist will say, is "a defective nervous system." If this be true, the nervous system, too, has differentiated against many of these individuals in a relatively small portion of their anatomy—in some of their bones, a few of their viscera, and their muscles leaving the brain, often a brilliant one, with many of the other functions characteristic of the higher individual well developed, demonstrating a normal mechanism for at least a portion of the body.

I only want to add that a confirmation of these facts I have so inadequately depicted can be obtained by any of us every day.

The perpendicular bony pelvis can be observed as the patient stands before us. The defective pelvic floor is easily recognized on the most casual inspection. The lack of development of the front portion of the levator ani, as exhibited in the puborectalis, the sphincter vaginæ, the transversus perinei, is easily ascertained by simple palpation of the perineum and the vaginal walls. The central position of the uterus and the failure of forward blending of the broad ligaments are immediately revealed in any lower abdomen operation. The defective peritoneum, projecting bladder, the small round ligaments and the exaggerated sacro-uterine ligaments are easily demonstrated in our routine abdominal work, while the Trendelenburg position and deep observance of the pelvis reveals the unattached rectum and the deep cul-de-sac of Douglas.

31 North State Street.

Bacteriologists Please Note.—We do not know just how to classify it, perhaps as a new phase of anaphylaxis, this smoldering of a microbe, referred to in a recent letter written to the *Scranton Times*: "When the earthly crown is fading in the twilight of the western light of life, and life's sun is setting in the glamor of the darkness that precedes their exit from life's stage, and the activities thereof, the smoldering microbe of the faith of their fathers becomes a lamp to their feet and a light in their way in their journey to eternity."

AN INDEX TO THE GENERAL BLOOD-PRESSURE

THE VENOUS PULSE AND BLANCHING OF THE RETINAL VESSELS INDUCED BY PRESSURE ON THE EYEBALL *

MELVILLE BLACK, M.D.
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DENVER

By pressure made on the eyeball with the finger placed over the junction of the eyelids at the external canthus, the intra-ocular tension can be materially increased. The tendency of this pressure is to empty the veins of the retina, to inhibit the inflow of blood into the retinal arteries, and to produce the venous pulse.

If, while this pressure is made, one watches the retinal circulation of a young child, the pulsation of the veins on the disk will be first observed; then the arteries will be seen to diminish in size and the veins to be almost emptied of blood. This is because the vessel walls are soft and resilient. In old age the walls of the vessels offer more resistance and scarcely any visible effect from the pressure is observable. In some very elderly people, however, the venous pulse is seen and a decided blanching of the vessels takes place while making steady strong pressure. These are the exceptions and only go to prove that a small amount of vascular hardening has taken place, or that this individual has always enjoyed a normal blood-pressure. It is admitted that this test is not of great value in very elderly people, for the reason that almost all of them will show little or no change in the retinal circulation from pressure. Its greatest value is in young or middle-aged subjects. If, while examining the eye-grounds of a patient aged 30, we apply pressure to the eye-ball and find that we cannot cause the venous pulse or blanching of the retinal vessels, we have good reason to suspect increased blood-pressure, and almost invariably the sphygmomanometer will confirm our suspicions. The early recognition of high blood-pressure may mean much to this individual.

A very striking picture is presented in people who have dilated hearts with very low blood-pressure. Here pressure on the globe causes a decided emptying of the arteries, with but little effect on the veins. When arteriosclerosis is well advanced, no matter what the age of the subject, or whether the general blood-pressure be high or low, little or no blanching of the retinal vessels will take place from making pressure on the globe, and it is equally difficult to produce the venous pulse. I have now given the matter close attention for four years, and I find when referring a patient to an internist for examination that I can almost invariably foretell what the blood-pressure findings will be. This does not mean that this pressure test renders the use of the sphygmomanometer unnecessary. On the contrary, it means that the ocular findings warrant a careful estimation of the blood-pressure by the use of the sphygmomanometer.

I have been unable to find in the literature any reference to this pressure test. If any one is before me in having published anything on this subject I shall be only too glad to give him due credit and to apologize for stealing his thunder.

329 Majestic Block.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

ABSTRACT OF DISCUSSION

Dr. H. S. Miles, Bridgeport, Conn.: This test of Dr. Black's seems to me to be a very valuable one. As we are now paying much more attention to blood-pressure than formerly, it must be a great advantage to have a ready and reliable index which we can easily apply in a few moments.

Dr. Edward Jackson, Denver: I have made some application of the test, and am sure that doing it frequently it will every once in a while throw very interesting and important light on our cases. By a little additional pressure, or rather firm pressure, one can very often get the arterial pulse, and perhaps this is a more direct means of estimating the arterial blood-pressure than by the venous pulse. In a patient on whom I applied the test within the last two weeks, I found it impossible to produce any change in the arteries of any arterial pulsation by pressure that commenced to make the cornea steamy. Of course, this indicated high blood-pressure. While we have the sphygmomanometer to which, as Dr. Black says, we will refer to settle these questions, I think outside of that it would be perhaps the most valuable means of testing the blood-pressure. It is the same principle that is used in testing the capillary circulation by emptying the capillaries by pressure, though it is the length of time that it takes to refill that indicates the condition of the circulation. In the veins of the eye also the time it takes to refill is valuable and worth watching. I am inclined to think that gives more information about the general state of the intra-ocular circulation. It is a very interesting new method that can be applied very easily. Just place the little finger at the edge of the orbit, and then, pressing as firmly as you choose on the edge of the orbit, make pressure on the eyeball through the lower lid.

Dr. Melville Black, Denver: I never tried the pressure with my little finger. You press through the lower lid, do you, Dr. Jackson?

Dr. Edward Jackson: I usually use my little finger on the lower lid.

Dr. Melville Black: That might be desirable for the reason that many use the ophthalmoscope with reflected light. I use the electric ophthalmoscope and my hand does not get in the way of the source of illumination. I have been using the index-finger and applying it to the external canthus, but I can see that the other method would be better, because you could keep your hand out of the way.

With regard to the refilling of the small vessels of the disk, that unquestionably would have some value. That is a point I had not especially thought of, but I shall watch closely for that blanching effect on the disk. I had been following more particularly the larger vessels and one can see this blanching way out into the retina very distinctly. In a child one can squeeze almost all the blood out of the vessels, so that there is practically nothing but the empty vessel walls. This is particularly useful in cases of embolism of the central artery of the retina. Here, as is known, there is a certain amount of damming back of the venous circulation, and one can empty the veins so that there is nothing to be seen but the vessel walls. It is important to know exactly how much blood there is in the vessels. One can then readily determine the amount of collateral circulation, or whatever circulation there may be present in these cases. But the test as I proposed it was not for this purpose but to determine the actual hardness of the retinal vessels, and the state of the blood-pressure from the way they act.

Medieval Surgery.—Writing about "Science at the Medieval Universities" in the *Popular Science Monthly*, Prof. J. J. Walsh says that it was in surgery that the greatest triumphs of teaching of the medieval universities were secured. Most people are inclined to think that surgery developed only in our day. The great surgeons of the thirteenth and fourteenth centuries, however, anticipated most of our teaching. We have their text-books of surgery and they are a never-ending source of surprise. We have many wonderful instruments from these early days preserved in pictures at least, that show us how much modern advance is merely reinvention.

RECTAL PROLAPSE *

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CHICAGO

In inviting your attention to this subject and to a modification of existing methods for its correction, I earnestly desire to be understood as advocating the proposed surgical interference only in the true, extensive, reducible, non-ulcerative cases, that resist the usual non-operative treatment. In order to have a proper working basis, it is necessary to specify what form of rectal prolapse is under consideration, since included under this caption one finds every gradation from simple protrusion of mucous membrane through the anus, to a genuine acute external intussusception.

Lenormant suggests four groupings:

1. Ectropion of mucosa through anal ring.
2. Invagination of lower rectum through anal ring.
3. Invagination of upper rectum through lower rectum and anal ring.
4. True intussusception of intestine and mesentery through anal ring.

Of these groupings the first and fourth are not here to be considered. The first, because a simple mucous membrane protrusion is not a rectal prolapse, is due to entirely different factors, and requires only local treatment. The fourth, an acute external intussusception, is an emergency requiring the same prompt interference appropriate to similar conditions higher up the intestinal tract. We have for consideration, therefore, a true prolapse of the rectum of varying degree, the etiologic factors of which have been so revised (Waldeyer, Ludloff, Lenormand, Hofmann) that the older teachings of Esmarch and his school are no longer tenable. It is not now believed nor taught that, provoked by straining, dysentery, hemorrhoids, bladder-stone, etc., the mucosa first prolapses, then the other layers in their sequence. Instead, anatomic researches (Waldeyer), clinical findings (Mikulicz), and operative results (Ludloff, Hofmann) confirm the assertion that this affection is always dependent on a defective pelvic floor. This defect may be (1) congenital or (2) acquired.

Congenitally the peritoneal pouch of Douglas may be, as in other hernial positions, so deep as to constitute a potential hernia, which intra-abdominal pressure later distends and, crowding downward through the anal ring, carries the rectal wall along with it. In the young, the slow development of the coccygeal curve and the associated imperfectly developed musculature, with its consequent lack of support to the pelvic floor, explain the greater frequency in children; the traumata of gestation, those in women. The rarity in the adult male thus becomes clear, age and intra-abdominal pressure being the great causative factors. Considering the great frequency with which we observe extremely high intra-abdominal pressure unassociated with rectal prolapse, we are forced to the conclusion that a defect in the pelvic floor is essential to its formation. With this carrying downward of the floor there is soon formed a prerectal peritoneal sac into which loops of small intestine may, and do, incarcerate, forming the principal complication of this affection, hedrocele.

From an anatomic basis—absence of peritoneal covering on the posterior rectal wall—we can expect to find the hedrocele anterior to the prolapsed mass (Cunston). Reduction of its contents is usually attended with gurgling, and coughing gives an impulse similar to other hernia (Gosselin). Allingham emphasizes the fact that the bowel orifice is at the apex of the prolapsus except when hedrocele exists; it then is directed posteriorly.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Hedrocele being viewed as true hernia—some writers assert it always is—the treatment similar to that for hernia elsewhere must be instituted, one step of which should be the obliteration of the peritoneal pouch, another the permanent reduction of its contents, with later, if necessary, the narrowing of the perineal defect —its hernial ring.

It being the purpose of this communication to present a modification of the best known and most accepted procedure (colopexy) for the alleviation of this ailment, time will not be taken to compare the varying merits of the many methods devised further than to state that the very extensive studies of both Lenormant and Ludloff lead to the conclusion that the upper operation is the one of choice.

Colopexy has always the advantage of in nowise disturbing the function of the rectum and anus; its dangers are no longer real, since out of sixty-eight cases (collected by Lenormant) there were no deaths, and since this procedure alone gave 90 per cent. permanent cures, while the 10 per cent. of recurrences can now be prevented by combining the procedures of several operators. These compare most favorably with the Aufret-Mikulicz resection which gives 7 per cent. recurrences and 10 per cent. mortality. This should, therefore, be reserved for gangrenous, irreducible, incarcerated and ulcerated cases only.

OPERATION: PROLAPSUS RECTI

To anyone making for the first time an effort to correct a rectal prolapse by intra-abdominal fixation there comes an early and startling realization of apparent lack of any satisfactory point to which the prolapsed bowel may safely and permanently be anchored. The dangers attendant on adhesions of any of the movable viscera to the parietal walls are constantly borne in mind in abdominal work, and every effort made to prevent the same. The strongest condemnations have been made of uterine ventrofixation based on unhappy clinical experience, and yet the most favored method to-day for prolapse involves similar incorporation in the line of incision of the rectum and sigmoid. I was not content with the recommendations of Verneuil to suture the epiploceles in the incision; of Quenu to suture the gut to the psoas and iliacus; and of the later writers to include intestinal wall in the incisional stitches, or that of Ludloff to resect the intestine, make an end to side implantation of the sigmoid in the rectum, and implant the upper end of the lower segment in the groin as an artificial anus.

In an effort to avoid a procedure which seemed to me so unsurgical, I sought—and think I found—the solution to the problem in the normal fixed point of the sigmoid. If one pulls up the prolapsed rectum from the emptied pelvis, the first thing to which it could well be attached is found to be the fixed portion of the sigmoid, but the fear of angulation or tearing out of stitches has perhaps prevented its utilization. To overcome this, and yet to secure a strong fixation, I have found that a generous and strong side-to-side anastomosis, using the three rows of sutures of Mayo, between the rectum and the fixed portion of the sigmoid, is most satisfactory, while in nowise leaving such potential dangers as attend incorporation in the cicatrix.

This procedure must not be confounded with that of Carlo, Hoffmann, Mariani et al. who before stitching the colon in the incision made an anastomosis to avoid the dangers of kinking that were made probable by the whipping together, to prevent internal hernia, of the loops of sigmoid to be suspended. It has the advantage of making an attachment to the abdominal wall unnecessary, thus obviating the various dangers attendant thereon, such as gestation, colics, internal hernias, etc. Obstruction of the lumen of the gut is obviated by the anastomosis. O. Samter first called attention to the fact that in cases of prolapsus recti, no matter how strongly one may pull up the gut, the lower part of the Douglas pouch peritoneum, so recently dilated, cannot be put on the stretch, hence were one to be content with a colopexy alone, there would still be the potential relapse. This he prevented by an obliteration of this space through suturing together of its walls, equivalent in effect to the removal of hernial sacs elsewhere. While believing the total obliteration of the pouch as shown in his drawing is unnecessarily extensive, I believe the same result can be accomplished by obliteration of its relaxed lower segment.

In our treatment of these peculiar hernias we have thus far provided for the reduction of their contents and the elimination of their sacs. There remains the correction when necessary of the perineal defect. In practice, however, it has been found that with the suspension of the intestine and the obliteration of the Douglas pouch by suturing from within, the dilated sphincter and relaxed perineal muscles often regain their normal tone and only rarely does it become necessary to make an anal narrowing, by a plication longitudinally of the lower rectal segment posteriorly as recommended by Marchant, or anteriorly and posteriorly after Duval and Lenormand. Though my experience has been limited to but three cases thus treated it has been so encouraging in its results and so relatively easy of performance that I do not hesitate to ask for further trial at your hands.

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ABSTRACT OF DISCUSSION

Dr. E. Wyllys Andrews, Chicago: I know of no class of cases more unsatisfactory under the old methods than the complete prolapsus of all coats of the intestine, if treated by the cautery, the lower resection or any of the suture plastic methods.

Colopexy or rectopexy from above has proved to be the best solution for these extensive prolapse cases, in which the whole Douglas pouch has descended, and a long segment of rectum in the intestine inveterately protrudes.

But rectopexy or colopexy has in our hands been subject to complications of the several sorts, especially in the direction of aggravating abdominal pain and possible kinking; and I think possibly kinking depends on imperfect technic in the attachment through some support. We have attached it to the anterior wall, to the psoas magnus muscle and to the tissues of the groin; but the wide loop of the sigmoid still persists as an 18-inch or longer loose movable intestine, which is all the more kinked the more we draw the anus and rectum up by direct traction on the lower rectum.

Part of Dr. McArthur's work was done in the hospital where I have been his colleague; and after his technic was called to my attention, I employed the method which, as you heard in the paper, consists in anastomosing directly by lateral approximation, the short loop of the upper rectum to the fixed portion of the descending colon, where it turns to form the wide loop of the sigmoid. This is anatomically the best fixed support to which to attach the intestine for suspension purposes. It is the only scientific application of the suspension principle, to suspend one movable viscus to another movable viscus.

In several cases in which I suspended this movable colon to either the anterior or posterior wall or Poupart's ligament I had the pain I speak of. In two cases in which I followed Dr. McArthur's technic I had no other difficulty than the necessity in one of the cases of repairing a sphincter insufficiency which was partly due to rectocele associated with perineal laceration or possibly due to a prolonged dilatation of the external sphincter muscle from the almost life-long existence of this huge prolapsus. This had so overstretched it that at last it had become paralyzed—at any rate, lacking in tonicity. But the final result was satisfactory, though I was obliged to repair a slight prolapse of the mucous membrane only, forming a rectocele, by a sort of perineorrhaphy.

DR. L. L. MCARTHUR, Chicago: I want to call attention to the operation proposed by Ludloff in which he resects the gut, makes lateral implantation of the proximal end and anchors the distal end out at the groin. With this he has a handle to hold his bowel up. To me that is a far more formidable affair than the one proposed in the paper. In the latter the amount of traction which is put on the line of suture is only sufficient to bring the parts nicely together, while holding the rectum well out of the pelvis, but not a great tension, otherwise the stitches might tear out during the first few days of the convalescence. After the union has been completed, of course the adhesion is a good and a strong one.

WOODY PHLEGMON OF THE NECK (RECLUS)*

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HISTORY OF THE SUBJECT

In 1893 Paul Reclus[1] of Paris reported on a form of chronic neck phlegmon of which he had seen three cases and which he believed to have been hitherto undescribed. According to this report the condition generally affects men of over 50 years, depreciated in general health. The urine is generally free; there is no constitutional disease. In these cases a slowly extending boardlike infiltration develops in the neck, sometimes in front, sometimes at the side. The development of the affection is always slow; it may extend over many weeks. The skin gradually becomes of a wine-red color, or purple or bluish. Fever and pain are not observed. At first the picture is that of a developing skin cancer. After a duration of five or six weeks edema and fluctuation come on and pus is apt to be discharged spontaneously or after incisions. In one case of Reclus the patient suddenly succumbed to edema of the glottis. In his other cases the phlegmon slowly healed after evacuation of the pus.

Reclus[1] gave a further account of this woody phlegmon of the neck in 1896, adding two cases to the three which he had hitherto observed. All of the cases occurred in men broken down in general health. Syphilis, diabetes, Bright's disease and other constitutional conditions were absent. The patients were much depressed; their only complaints were of difficulty in swallowing and in moving the neck. In all of his cases edema was present, and the skin slowly became of a wine-red color; there was a very slow formation of pus, and healing was slow. In one of his cases a bacillus like that of diphtheria was present and this patient improved under antidiphtheritic serum.

Reclus believed that this chronic inflammation might also occur in other portions of the body, though the neck was most often affected. It might easily be confounded with cancer, actinomycosis or tuberculosis. He believed that the condition owed its origin to pyogenic microbes of lessened virulence. Unknown factors might be associated.

These observations of Reclus did not lack confirmation. Kusnetzow[6] reported on a man of 69 years, much depreciated in general health, who had suffered Ludwig's angina two months before. A hard mass slowly developed between the lower jaw and the larynx. The skin became hard, there was no fever. The condition was thought to be cancer. Compresses slowly produced a softening at the center of the mass and a small abscess containing broken down tissue was opened. The hardening slowly passed down the left sternomastoid muscle and a new abscess was opened. One month later a suppurating gland was opened in the right subclavicular space. Healing took place after four months of illness. A weakened form of streptococcus was found in the pus.

Janson[11] reports a case occurring in a young woman of 25 years after a mild attack of streptococcus angina. Recovery after seven weeks. A similar case, due to the *Diplococcus pneumoniæ*, also secondary to an angina, is described by Jursdell and Svensson.

Sick[22]* of Hamburg reports a case of woody phlegmon occurring in a woman of 42 years who five years previously had suffered from a pneumonia with a subsequent mastoiditis requiring operation. She presented the characteristic infiltration, with swelling and skin discoloration extending from the mastoid process and maxillary border as far as the middle of the neck and downward to the clavicle. Complete, slow recovery took place under expectant treatment with large, moist dressings. Sick accepts the description of Reclus and emphasizes the fact that the differential diagnosis must exclude neoplasm as well as actinomycosis.

Further reports, each on one or two cases, are made by Moreau,[20] Sotis[32] and others. An excellent description is to be found in the "General Surgery" of Lexer and Bevan,[35] as well as by E. Wyllys Andrews in Keen's "Surgery."[36] Da Costa[40] of Philadelphia says that woody phlegmon is always dangerous and frequently fatal. He suggests the induction of suppuration by inoculations. Schmincke[25] tries, from the findings in one case, to make out a resemblance to neoplasm and characterizes the disease as cancer-like or canceroid. In this he was wrong: the condition is not neoplastic but inflammatory. The contention of Schmincke was promptly contradicted by Merkel,[17] Fichtner[26] and others.

An interesting observation is made by Antonio de Cortes.[37] His patient was a man of 27 who early in October, 1908, first noticed an induration in the supra-hyoid region. This was of a stony hardness. It gave rise to no disturbance excepting for its presence and was *therefore left untreated. It slowly increased in size. At the end of three or four weeks swallowing became somewhat difficult and the movements of the neck were restricted.* On account of continued growth of the swelling the patient sought admission to the hospital. At this time the anterior half of the neck presented a slightly elevated swelling with a smooth surface and sharply outlined margins. The color was uniformly purple; it was attached to the *underlying tissues and to* the skin. The mass could not be indented with the finger. It extended from the jaw above to the collarbones below. There was no fever. Deglutition was difficult and painful. Movements of the neck were very much limited. The urine was free. Moist, warm packs were ordered. Ten days after the admission of the patient to the hospital the *respiration began to be disturbed* and swallowing became still more difficult. Dyspnea was especially marked at night and became actually threatening. A few days later the skin became edematous and at the same time a more intensely purple *zone formed at the center of the mass. This center* slowly softened. It was incised and a very small quantity of thick, bloody pus escaped. Dysphagia and dyspnea subsided, but in general the local condition persisted. Other small foci of softening formed and were evacuated; but little pus was present. The entire condition had completely disappeared at the end of five months and the patient was discharged cured. Rare coccidium forms, isolated or in groups, were found in the scanty pus.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Note. July 13, 1911. I am this day in receipt of a letter from Hofrat C. Sick, in which the *distinguished* Hamburg surgeon says: "The article on wooden phlegmon, to which you refer, is by my nephew, Dr. Paul Sick, of Leipsic. I have personally been able to certify but one case of woody *phlegmon* in my practice, a brief history of which is as follows: A workman suffered severe pain in the left side of his abdominal wall after [illegible] efforts. Some fourteen days later a hard, [illegible] found, involving the entire left anterior [illegible] wall, [illegible] to the linea alba within and to the lumbar [illegible]. There was no fluctuation; there was moderate [illegible]; there was slight fever. No evidence of suppuration from the peritoneal side. The infiltration [illegible] was so extensive that one could make it out [illegible] rectum. A *free incision* was made throu[illegible] fasciæ to the peritoneum. The tissues were [illegible] but not *suppurating*. Here and there areas [illegible] were *found*. There was no history of syph[illegible] and the Wassermann reaction was negative. Microscopically, nothing was found excepting *inflammatory* tissue; no tuberculosis, no actinomycosis, no neoplasm. The infiltration *slowly* disappeared in the *course of* a few months and the man was discharged cured. As I have said, I *considered this* a case of wooden phlegmon in the absence of *other* explanation."

Capasso[38] contributes two personal observations. In one the entire back of the neck was involved, small abscesses forming here and there from time to time, complete healing taking place at the end of some three months. The other case of Capasso concerned a priest who presented a woody phlegmon of the entire left cervical region. The mass was of stony hardness. Incisions of the hard mass showed lardaceous tissue without trace of suppuration. The swelling continued to extend after the incisions were made and a second and third intervention, with deeper incisions, had but little effect. The condition went on in this way for some weeks without general symptoms and with but moderate fever. After some time compression symptoms, through disturbed innervation of the limbs, became noticeable. Incontinence of urine came on. The deep, free incisions gave rise to very scanty suppuration At the end of several weeks the patient died, without marked symptoms of a grave general infection but still presenting the same signs of woody hardness in the affected region.

Suchy[39] contributes notes on an interesting observation in which symptoms of tracheal stenosis came on very suddenly. Operation disclosed a small, circumscribed abscess close beside the right thyroid cartilage. Relief followed the evacuation of a relatively small amount of pus. Complete recovery at the end of two months.

Other isolated observations on this interesting affection are reported by a number of surgeons. The chronologically arranged bibliography† at the end of this article gives references to these.

REPORT OF CASES

Without giving more time to these citations I venture to report three personal observations, which are as follows:

Case 1.—*A man* of 52, a laborer, came under my care in October, 1901, presenting a hard, fixed, bluish mass about the size of a flattened, large apple, in the median line of the neck beneath the lower jaw. According to his history he had suffered from a diffuse, tender *swelling in the floor of the mouth* about one month previous. This *mouth* swelling had twice been incised by a physician; at each time a moderate amount of pus had been liberated. The swelling beneath the jaw had *come on slowly, painlessly, progressively.* When seen by me it was fixed on the deep tissues; the skin was *adherent* and slightly edematous; it was of stony hardness and my provisional diagnosis was carcinoma. Under local anesthesia a *fairly long, deep incision* was made. The cut surface of the mass was hard, of a grayish white; *it had the microscopic appearance of carcinoma. No pus was encountered* in making this incision and there was no point of fluctuation. A good-sized piece was excised and submitted to Dr. J. A. Wilder, professor of pathology in the University of Denver, who reported it to be fibrous, inflammatory tissue. Expectant treatment was instituted; local, moist applications, general tonics. The man was depreciated in general health, depressed mentally. There was no fever at any time and he was able to be up and about. For three weeks after the patient came under observation the mass gradually increased in size, becoming something like a third larger than it was when first seen. At the end of this time small, rather superficial foci of suppuration began to appear. These were incised, and small amounts of thin pus were evacuated. Cultures showed this pus to contain *Staphylococcus albus* and *aureus.* At the end of three or four weeks the mass began to diminish in size and slowly disappeared. The man passed from observation three months after I saw him, four months after the onset *of the disease. At that time there was a fair amount of thickening* beneath the jaw, and movements of the jaw and neck were somewhat restricted. During the height of the swelling deglutition was somewhat interfered with but the man's breathing was at all times free.

Case 2.—In December, 1906, Dr. Frank W. Finney, of La Junta, Colorado referred to me Mr. G., a man of 45, of Lamar, Colorado. Some two months before he was seen, the patient had suffered from an infection around the left *parotid gland. This had been incised by Dr. Finney;* a small amount of thin, bloody pus had been evacuated. The inflammatory condition did not subside but extended to the left side and back of the neck. This extention of the swelling had been painless and unaccompanied by fever. It had been progressive. When the man came under my observation the entire left side and back of the neck was the seat of a diffuse, hard swelling which extended from the *occiput and mastoid above to a point* opposite the spinous process of the fourth cervical vertebra below. This swelling extended forward toward the jaw and across the median line. It was fixed; the skin over it was attached and somewhat discolored. The mass gave me the impression of malignancy. Operation was performed under ether at the Mercy Hospital, Dec. 15, 1906. On incision the mass was hard and whitish; it looked like carcinoma. Complete removal was impossible. Excised portions were given to Dr. J. A. Wilder, who reported the condition to be inflammatory fibrosis of muscle and fasciæ. At no time while the patient was under my care was there suppuration. The man returned to his home in Southern Colorado three weeks after operation and I was told that he died in Southern California in 1909. I am unable to learn the exact cause of his death.

Case 3.—*History.*—Mr. X., aged 47, while in New York in December, 1909, *suffered* from a severe attack of influenza.‡ After three weeks of this disease a tender swelling *presented* in the floor of the mouth on the left side. The gums *around* the teeth of the left side of the lower jaw were tender, discolored and inflamed. On Jan. 3, 1910, Dr. Myles incised the tissues at the floor of the mouth and found a little pus (streptococcus and staphylococcus). During the *following* two days symptoms of an acute *Ludwig's angina* appeared; swollen mouth, salivation, fetid breath, strident voice, general difficulty in swallowing, swelling beneath the chin, *swelling of the* left submaxillary region. On Jan. 5, 1910, a submaxillary abscess was incised by Dr. Blake at the Presbyterian Hospital.

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† *For which I am indebted* to Dr. F. Robbins of New York.

‡ This case is presented in full. I am much indebted to Dr. S. G. Bonney for constant, valuable aid.

A secondary abscess was found below the angle of the jaw: the swelling in floor of the mouth was drained. Under hot fomentations and mouth irrigation the swelling gradually subsided. (Dr. Blake tells me that he evacuated ½ ounce of pus containing streptococci and staphylococci.) On January 24, nineteen days after operation, Mr. X. left New York for Denver. At that time he was thought to be in excellent condition; there was a small sinus which discharged but little. There remained a hardish swelling in the left side of the floor of the mouth and one beneath the chin. During the night of the day on which he left New York he was conscious of an increasing swelling beneath the lower jaw on the left side and of an increase in the swelling beneath the chin. The patient presented himself at my office on January 26. A small, very slightly discharging, submaxillary sinus was present. There was a moderate, rounded swelling beneath the chin and a further moderate swelling beneath the left border of the lower jaw. Both of these swellings were hard; they were not tender. An elongated, hard, fixed swelling was felt in the floor of the mouth in the region of the sublingual gland. The patient was weak but he had no fever. His local condition was not thought to be of marked importance; it was thought to be an ordinary induration consequent upon a severe Ludwig's angina. During the next few days the swellings beneath the chin and the jaw rather tended to increase. They became somewhat painful. Swallowing, which had before been good, began to become impaired. The voice was at times husky. An *x*-ray picture failed to show a calculus or any affection of the bone. It was thought wise to make a free incision and remove the left submaxillary gland.

Operation.—Performed at the patient's home, Feb. 2, 1910, under ether, Drs. Childs and Jones assisting. Free incision from midline of chin beneath border of lower jaw to its angle. All tissues hard, fibrous, whitish, boardlike. All tissues fused in a mass. Removal of a large area of hardened platysma muscle and fascia. Removal, with some difficulty, of the left submaxillary gland. Further incision between the genial muscles up to the mucous membrane of the floor of the mouth. Entire digastric triangle cleared out and packed with gauze. Rubber drainage-tube to the floor of the mouth. Separate, large cigarette drain beneath the chin. Very wide, thorough operation. Subcuticular suture. Culture taken from wound negative. Culture from sinus showed *Staphylococcus albus* and *aureus*. Sections of gland and muscles made by Dr. H. S. Denison showed "dense fibrous tissue with the typical distorted nuclei of chronic inflammation. No evidence of malignancy."

Postoperative History.—Smooth immediate course. Daily dressings, gradual closure of the wound. Good healing at sutured area. Daily irrigation of wound, gradual pushing out of tube and drains.

March 6, 1910: During the past week the swelling beneath the chin has tended to increase, the skin over it has become reddish, the skin below the middle of the incision has become reddish and swollen. The swelling of the sublingual gland as felt in the floor of the mouth remains about the same. It is hard, not tender. The patient has no fever; during the past three weeks his temperature has been normal and his pulse about 80 to the minute both morning and evening. He has been up and about, out of doors, sleeping well and eating fairly, though he has had but little appetite. His bowels have been moved daily by laxatives. He opens his mouth well and has good use of his tongue; his voice and swallowing are good. Hot boric compresses are to be applied to the swollen area.

March 9: The voice is a little rough this morning. The patient complains of headache. He says that he feels "played out." There is no fever. There is a suspicion of beginning softening in the mass beneath the chin; hot fomentations continued.

March 10: The mass beneath the chin seems somewhat enlarged. It is of a bluish-red or violet color; it is hard, not tender. Under cocain an incision ¾ of an inch long and ¾ of an inch deep is made at about its middle. A very little streaky pus is liberated. The mass, at its cut surface, is whitish and seems fibrous.

March 11: The mass is about the same in size. Three cultures are taken from various places. Hot fomentations continued. The patient has no fever; he feels fairly well.

March 12: The mass seems to be larger this morning. It is of a rather deeper bluish-red color; there is no discharge from the wound made on March 10. The sublingual gland in the floor of the mouth seems to be rather larger and harder. Dr. W. C. Mitchell reports one culture tube to be sterile; each of the others shows *Staphylococcus albus* and *aureus* together with a pseudo-diphtheritic bacillus. An autogenous vaccine* is ordered.

March 13: The mass seems to me a little smaller this morning; its color is less marked. There is practically no discharge. Hot fomentations of a weak boric solution have been continued. The patient constantly shows a pulse of 80 and a normal or subnormal temperature. He sleeps well and has no pain. He can open his jaw to practically the full extent; the motions of the tongue are excellent, though the patient thinks that there is rather more fullness in the floor of the mouth. He is up and about during the day. While he has practically no appetite he takes a sufficient amount of food.

March 14: The mass beneath the chin seems a little smaller this morning, the color is less marked. There seems to be a little increase of deep thickening just below the angle of the jaw on the left side. Further incisions are delayed in the face of this apparent improvement. Considering the solidity of the tissues between the lower jaw and the hyoid bone the patient has a remarkable use of the lower jaw and of the tongue. No positive prognosis is made at this time, although the outlook for recovery is thought to be good. The condition, clinically, resembles cancer or actinomycosis.

March 17: Since the last note was made the patient has been up and about the house daily. Hot fomentations have been continued. His general health is good; he has no pain nor fever. The swelling at the left side of the floor of the mouth tends a little to recede; it seems a little smaller on palpation. There is still a small sinus at the middle of the digastric triangle. There is practically no discharge from this. There is a very slight discharge from an incision which was made a few days ago; this incision tends to heal. The mass between the lower jaw and the hyoid bone seems rather smaller and tends to become movable; it is of a bluish-violet color. The change has not been marked but it seems fairly noticeable and is a change for the better.

March 21: During the last two days the mass beneath the chin has become rather deeper red in color and somewhat more swollen. It is a little more tender. The general health is good. The hot fomentations are continued. This condition tends to recede and advance by turns, and despite the fact that I believe the general outlook good I must admit feeling a marked sense of anxiety.

March 25: The condition is better now than at any time since the patient returned to Denver. The mass below the chin is movable; the mass in the floor of the mouth is smaller and softer. The process is essentially a chronic one.

March 29: During the past three days there has been increased swelling, pain and discomfort, increased swelling and disability in the floor of the mouth. During the past twelve hours there has been a fairly free discharge of thick pus at the site of the incision last made.

April 11: Since the last note the patient has been up and about, and has had the boric acid fomentations applied whenever the skin would permit. On the days on which the wet dressings have been omitted he has been out of doors. The mass beneath the chin tends slowly to improve; at times it has scantily discharged pus.

April 15: A lymphatic gland the size of a half cherry is discovered just below the angle of the jaw on the right side. This is movable, not tender. Probably it is secondary to inflamed tissue beneath the jaw; it may be due to the vaccine. The mass beneath the jaw is more reddened and swollen at the right of the median line.

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* In such a condition it is always difficult to judge accurately as to the value or effect of a vaccine. In general I must confess to skepticism regarding these agents in surgical infections, yet in this particular case I am inclined to think that the vaccine was of definite value.

April 16: Since the last note was made the entire condition has become much improved. The gland beneath the angle of the jaw is smaller; the mass beneath the chin is smaller, more movable and of a better color.

April 25: The local condition is markedly improved. The incision of April 16 healed in a few days without suppuration. (I am impressed by the fact that in this condition of woody phlegmon incisions through inflamed tissue may heal very promptly without suppuration.)

April 28: The local condition has steadily improved. The condition in the floor of the mouth is much better; the mass beneath the chin is smaller and very freely movable. The gland at the angle of the jaw is much smaller.

May 20, 1911: From the time of the previous note on, the condition slowly but steadily improved. There was no further suppuration. The hardened mass gradually disappeared. On June 1, four months after the patient came under my care, he was considered well. There was a little deep thickening of the submaxillary tissues but this was hardly noticeable. The scars beneath the jaw were so placed that they were hardly to be seen. The general health steadily improved and the patient considered himself cured. I have seen him often since; there has been no relapse.

I have cited this history at some length because it seems to me to be that of a carefully observed, typical case.

The foregoing personal cases conform closely to the type described by Reclus. In the first case the clinical course was typical and a cure resulted. The second case was a clear one but the man passed from under my observation at an early day and I am at this time uncertain regarding the exact ultimate history. I am under the impression that he died from some intercurrent disease. The third case, the history which I have related at length, is absolutely typical in every particular. I think that it may be accepted as a classical example of the affection under discussion.

I am in receipt of a letter from Professor Reclus† under date of Feb. 8, 1911, giving the present view of that distinguished Paris surgeon. He says that the condition is not considered by him a definite morbid entity, but that it is a form of anatomic reaction which can be provoked by any pathogenic germ; not only by the ordinary agents of suppuration, but also by the fungi (actinomycosis, sporotrichosis) the gregarines, etc. This anatomic reaction, characterized essentially by the production of fibrous tissue, may be found in regions other than the neck; for example, around the abdominal viscera, principally in the right iliac fossa, or around the kidney. The so-called perinephritic sclerosis is practically a ligneous phlegmon. Freidrich of Marburg writes me‡ that he believes that in these cases a wide excision of the fibrous tissue is preferable to multiple incisions. I believe this to be correct in certain cases; the third observation in my own series seems to be a very good example of this.

CONCLUSIONS

1. Woody phlegmon of the neck, *phlegmon ligneux*, is a condition of infrequent occurrence. It is generally seen in men depreciated in general health and over 45 years of age. The patients are generally free from intercurrent disease.

2. The exact causation is unknown. There is generally an antecedent infection of the tissues of the mouth or the pharynx or the salivary glands. The theory of Reclus that it is a form of anatomic reaction of the tissues to the presence of pathogenic organisms or fungi may at this time be accepted in place of a more definite explanation. The causative microorganisms are apt to be of low vitality.

3. The condition is essentially a chronic one. It generally simulates carcinoma or sarcoma or actinomycosis and must be carefully differentiated. Correct diagnosis is of the greatest importance.

4. The general tendency of the disease is toward recovery. Fatalities may occur through edema of the larynx or through pressure or through diffuse extension and exhaustion.

5. Foci of suppuration should be induced in all possible ways. Warm, moist compresses are undoubtedly of value. Free incisions may be made. Excision of wide areas of boardlike tissue should be practiced in suitable cases. The general health should be brought up to the highest possible point.

6. A careful microscopic and bacteriologic study of each case is necessary. Autogenous vaccines may prove to be of value.

7. The surgeon should be in readiness at all times to perform a required intubation of the larynx or a tracheotomy.

8. While the accompanying communication concerns woody phlegmon of the neck it is to be remembered that a similar pathologic process may affect other portions of the body.

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† Through Dr. Kendlzdjy, his chief of clinic.

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ABSTRACT OF DISCUSSION

Dr. Frank Le Moyne Hupp, Wheeling, W. Va.: One of the important points mentioned by Dr. Powers and emphasized also by Kocher, is that the characteristic point of this disease does not lie in the etiology so much as in the diminished potency or attenuated virulency of the torpid and non-reactive microbes, and the boardlike and densely hard infiltration of the skin, which though localized at first, may extend from the jaw to the clavicle. While Dr. Powers has told us that in arriving at a diagnosis, carcinoma, sarcoma and actinomycosis are to be excluded, this strange disease is also not to be confounded with Ludwig's angina, where we have to deal with an acute inflammatory process whose most striking characteristic is edema of the glottis with a phlegmonous, erysipelatous, perilaryngeal infection dependent on other causes. As a matter of fact, the Canadian teacher, Archibold, has said that the disease described by Ludwig in 1838 occupied the submaxillary space, was acute in its course and usually secondary to an adenitis, the exciting lesions being a carious tooth, a mucous ulcer or a tonsillitis. The deep fascia furnishes an unyielding barrier for the deep-seated exudate, and so the larynx and glottis are subjected to a pressure and inflammation, presenting the characteristic picture of a true Ludwig's angina, with pressure symptoms, infection, and often death. This suggests another point in woody phlegmon, and that is while it may be true in some cases, as Andrews has described, that in its course no alarming symptoms of dyspnea or dysphagia develop, the essayist has told us that a suffocating laryngeal asphyxia has resulted, due to edema of the glottis, demanding a tracheotomy, and that we should always be prepared for this emergency.

Two cases of this kind have come under my attention: one, I think, was a typical woody phlegmon which was tracheotomized in the second month of the disease, and the other an extensive infiltration of the planes of the entire anterior aspect of the neck due to a virulent infection following tracheotomy for post-typhoid laryngeal stenosis. In both cases a quick tracheotomy was successfully done, using a new retractor or tube pilot which I have devised for the emergency operation.

BRAIN TUMOR*

REPORT OF NINE CASES

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The following cases of brain tumor seem to me to present variety enough in their symptom-complex to warrant reporting, and to serve also as a basis to direct attention to some of the clinical manifestations present. It has been my experience that some cases of brain tumor are overlooked, especially when no fundus changes have taken place, and that we should not depend too much on choked disk in order to say whether or not we have to deal with a cerebral neoplasm. Especially I think that this is so with many of us who are located in the smaller cities, where we have no expert neurologist to work out with us these central problems. Those of us so situated must depend largely on our own findings for our diagnosis. These cases are much more difficult when they present but few, if any, localizing symptoms outside of the eye changes, and also when the nerve change is in its first or second stage; or perhaps when it never passes on to swelling enough so that it would be classified as choked disk. I am fully convinced that some cases of brain tumor are missed in diagnosis because of the nonrecognition of this eye change in its early stages; and sometimes because coincident with the beginning choked disk there appears a macular change; and perhaps some albumin in the urine, with or without the presence of casts, or other evidences of nephritis, and the conclusion is rapidly reached that the case is one of albuminuric retinitis. While the macular figure in brain tumor is not like that of typical albuminuric retinitis, still it is sometimes confused with it; but as albuminuric retinitis is usually a late symptom in nephritis, and the macular change in brain tumor comes usually with the height of the swelling, there should be no difficulty in differentiation.

Both nephritis and brain tumor, however, occasionally occur simultaneously, and it is well to bear this in mind; but when there are other symptoms of tumor together with the eye changes it simplifies the diagnosis.

With Dr. de Schweinitz and others, I think that the symptom of temporary amaurosis is of great value, and occurs in the majority of cases. I wish also to emphasize Dr. de Schweinitz' advice to deduct the amount of static refraction present before giving the amount of swelling of the disk.

I believe also that in a majority of the cases the greatest swelling occurs on the side of the lesion, but the exception to this occurs so frequently that as a sign it cannot be depended on in localization. Taken in conjunction with other symptoms, however, it is of value. The same, I think, may be said of nystagmus. While this may be exaggerated when the eyes are turned to the side of the lesion, still it so frequently happens that the contrary is true that it is not of such value as we formerly thought; and, further, nystagmus is far from a constant symptom in brain tumor, and hence loses much of its importance as a diagnostic symptom.

A symptom which I believe is of great value is deafness in one ear, either partial or complete; in the majority of cases of tumor of the cerebellum and angle this appears at an early date. In some of my cases it was among the earliest of symptoms, and is an important factor in localizing the side of the lesion. In the cases here reported four of the patients had deafness on the side of the lesion, as confirmed by operation or autopsy.

The character of the vomiting is usually expulsive; it comes on without any previous nausea, and often is nocturnal. I believe that ophthalmologists should be as familiar with the symptomatology of brain tumor as the internist or surgeon; as ordinarily no one symptom can be relied on in making a diagnosis, and not infrequently the patient consults the ophthalmologist first for temporary amaurosis, or the failure of vision resulting from optic nerve changes. It is interesting to note what a loss of vision occurs in cases which are not yet in the choked disk stage, and in which only a papillitis exists; and to note also the amount of swelling which may exist in a nerve-head with good central vision.

I believe, with others who have written on this subject, that even if we find a case late in the disease, in which atrophy has already begun, we should not hesitate to recommend operation by decompression and removal of the mass if possible. In this way we are likely to save what vision remains, even if that be but light perception. Another point in this connection is that while saving the remaining vision, operation also serves to lessen the amount of staggering and vertigo, and makes it possible for the patient to get about readily, as Case 3, here reported, shows. In many cases also it serves to relieve nausea, loss of taste and smell, and other symptoms. So sure am I that such advice is for the best interest of the patient that in such cases I always recommend consulting a cranial surgeon. I have seen patients who were blind, deaf in one ear, unable to walk or stand, or to talk so that they could be understood, or to swallow without serious choking, and who suffered severe pain and a constant nausea and inability to retain food, with other of the terminal symptoms that tend to make a patient so absolutely helpless and wretched that nothing could be worse. To the laity, however, a cranial operation is a terrifying thing, and several of my patients refused operation and underwent all these things because they or their families were not educated up to the point where they could conceive of a surgeon doing an operation on the brain and the patient surviving.

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I have no doubt that the reversal and interlacing of the color lines as described by Drs. Cushing and Bordley as an early diagnostic sign is of value. I have two cases at present in which these phenomenon occur. If it is found to be constant prior to the visible nerve changes it will be of great service in diagnosis.

In my cases I have not noticed the distention and change in color, and uneven tortuosity of the retinal veins prior to visible nerve changes.

I believe thoroughly in early operation in choked disk, and believe also that if there is doubt as to whether or not the lesion is of luetic origin the Wassermann test should be used. While this reaction is not always to be depended on, still it is the best means of diagnosis in questionable cases. If there is a definite history of specific infection, especially if comparatively recent, and in the presence of brain symptoms, then I believe a course of mercury should be tried. It is little short of criminal to waste time in every tumor case by such treatment, especially when there is great swelling of the disk and perhaps beginning atrophy. In an old syphilitic case, however, I think the advice of Horsley, to treat it like any other surgical case, is correct. The cases in which operation has seemed to increase the papilledema seem to me too few to weigh much against operative procedure at as early a date as possible; yet, it is wise to inform the patient or friends of possibility of danger.

A symptom, which several of my patients exhibited, I have not noticed reported by others, especially in tumors of the cerebellum and angle; that is, a loss of sense of distance and direction for objects. For instance, in Case 1, the patient said that she missed articles she attempted to reach: either she did not reach far enough, or went to one side, or overreached; and perhaps she would fall over the object. In walking to a door she was likely to miss the opening and strike the casing; and this was not due to staggering, but to a loss of ability to judge the distance and direction of the object.

In Case 3, the patient had noticed the same thing, and stated that she had this trouble, especially in getting into a wagon, and attempting to take hold of the dashboard to aid in getting in; she said that she was likely to miss it and fall; and, in fact had fallen several times.

Another of my patients said that he was likely to stumble over objects that were low, but if the object were sufficiently high he had no trouble in getting over other than staggering; he constantly misjudged the height of objects on the floor, or on the sidewalk, and was likely to stumble over them. This is perhaps but a part of the general ataxic muscular condition.

In two of my patients an early sensory symptom noticed was a feeling of numbness about the eyes and across the face, as if the part were "asleep," and the patient had a desire to rub it.

That brain tumor with rapid degeneration can sometimes simulate brain abscess is, I think, well illustrated in Case 5, as there was the rapid onset, the slow pulse and the subnormal temperature seen in some cases of abscess. I think that in any case in which there are not decided blood-changes and in which no focus of suppuration can be found in any part of the body from which there might be metastasis that we are warranted in excluding brain abscess.

It seems to me that in the last case reported Jacksonian epilepsy is unusual in tumor of the left hemisphere of the cerebellum.

Perhaps my report of these cases, as well as these remarks, is too general in character for the Section on Ophthalmology; but it is my contention that we should embrace in our examination, especially in the absence of a neurologist, a general examination; I have not tried to give here the results of such examination entirely, but only the more prominent general symptoms.

Case 1.—*Patient.*—R. B., girl, aged 22, teacher, was referred to me by Dr. Colegrove in September, 1897. She looked well, except that she was somewhat anemic, but told me that for a year past she had been in poor health. She had been treated for indigestion, and had also some pelvic trouble. Recently her eyes had not felt right; they smarted and vision blurred, especially in the right eye. At times there was temporary loss of sight in both eyes, lasting from a few seconds to ten minutes, during which time she was very dizzy, and the blindness was seemingly equal in both eyes.

Examination.—Vision in the right eye was 20/50, in the left, 20/30. The right disk was best seen with plus 3. There was 1 D. hyperopia, and left papilledema of plus 1. There was a macular change in the right eye, with some chorioiditis, and small hemorrhages throughout the right retina. There was some loss of station, and the patient staggered in walking, chiefly to the right side. She said that she was always running into articles of furniture about the room; frequently made a misstep in descending stairs; that she misjudged distances, and in reaching for an article overreached it, and was likely to fall. Patellar reflexes were lost. Pupils contracted to light and convergence; there was no paralysis of extrinsic muscles, and no nystagmus. The patient had had very severe headaches with severe vomiting, which nothing would control. She said she had taken on some weight within the last few months, but that it did not seem natural to her, and she could not account for it.

Progress of Case.—Three weeks later, the right disk had 6 D. of swelling, and the left 1 D. There was much loss of coordination; and more hemorrhages in the right retina. The arteries were small, and the veins dark, large and tortuous; the left retina had a slight macular change. Vision at this time was, right 20/50, and left 20/30.

The patient was put on iodid and mercury, although there was no luetic history.

November 20: The patient said that the vomiting was better, the attack being less frequent and not so severe, but that she still had the blind spells, and that she did not walk any better. She had noticed also that there was loss of taste, and that things did not appear natural to her when eating. There was also some loss of smell; she said that she could not detect the odor of flowers. She appeared weak and anxious. I informed the family of the gravity of the case, and asked them to consult a cranial surgeon; but at this time we did not have as much to offer in this class of surgical cases, consequently I did not urge the matter.

About two months later I saw this patient again. There was 5 D. of swelling in the right eye, and 1 D. in the left, with beginning atrophy to the temporal side of both disks, and the swelling subsiding. There was very severe vomiting at times, her other symptoms were exaggerated, and she had begun to lose flesh.

Termination of Case.—I did not see the patient again, but learned from her physician that total blindness ensued; there was almost constant vomiting, inability to walk or stand, and death took place in April. An autopsy was refused.

Case 2.—*Patient.*—H. S., aged 18, farmer. Family history was good. I saw him in December, 1903. About six months previously he had begun to have severe pains at the vertex of the skull, and became very dizzy, staggering when he walked. He often had attacks of vomiting without preceding nausea. He was dull mentally, and was very slow in his answers; said he was unable to think clearly, and that his memory was poor. Recently his eyes had blurred, and there was a temporary loss of sight in both eyes, varying in time from a few seconds to several minutes.

Examination.—The patient was brought to me with a diagnosis of locomotor ataxia. He was very ataxic, chiefly to the right side; there was swaying, chiefly to the right, on standing with his eyes closed and feet approximate. The patellar reflexes were lost. Pupils reacted to light and convergence; there was no paralysis of extrinsic muscles. Vision, right 20/40, left 20/200. The right fundus showed choked disk, best seen with plus 6; left, plus 4. There was no nystagmus, and eye movements were carried out normally; there were no hemorrhages in either retina. On a rough test, both fields were contracted, but color fields were not taken. Some albumin was found in the urine, and some casts, chiefly of the hyaline variety. The patient had become very fleshy in the past few months; the skin seemed tense and hard, as if fully distended; did not pit on pressure, and had a leathery feeling. There was no deafness in either ear, and there was no loss of taste or smell.

Course of Disease.—I saw this patient but once, and on telling the family the nature of the disease other physicians were consulted, who, after examination, concluded that it was a case of myxedema, owing to the rapid taking on of fat, the condition of the skin, the albumin present, and the eye-ground condition. These physicians informed me that the man seemed to improve on thyroid extract. He then consulted Dr. Allen Starr, of New York, who diagnosed the case as one of brain tumor. His condition gradually grew worse; his vision failed utterly; moving about, walking or standing without support was impossible; vomiting and headache became very severe, and the patient died suddenly, about six months after I first saw him.

Necropsy.—The brain and kidneys were sent to me for examination. They were hardened in formaldehyd solution. The kidneys showed some cortical nephritis. The cerebrum was normal throughout, except that on opening the lateral ventricles there was a thick fluid, slightly tinged with blood in both lateral ventricles. This was spread out on the floor of the ventricles. On section of the cerebellum the right hemisphere was seen to be the site of a large tumor, which occupied the entire side and extended to the left hemisphere but did not involve all of that side. The mass was well broken down at the center, and over the fourth ventricle, and the fluid spoken of as being in the lateral ventricle was in the fourth also, and evidently came from this softened vascular tissue. Examination showed the tumor to be sarcoma.

Case 3.—*Patient.*—C. F., female, aged 32, a clerk, was first seen in December, 1904. Two years before, she began to have a queer sense as of drawing or numbness across the face, below the eyes, and about the eyebrows. She said that the stiffness annoyed her greatly; she wanted to rub her face to make it feel alive; she also noted at this time that vision blurred greatly. She was examined by an ophthalmologist, whose notes show no disease of the eyes; no macular change; and no refractive trouble requiring glasses. There was, however, 3 degrees exophoria. The numbness persisted, however, and she noticed that she stumbled over objects, and had dizzy spells. She was more apt to stumble over an object if it were low than if it were standing at an ordinary height. She said that she also seemed unable to avoid articles of furniture about the room, or at the store where she worked. If she put her hand out at times to touch an object she was likely to miss it, or to place her hand beyond it and run against it or fall over it. She noticed also that sometimes she made a misstep, and had noticed for months that in approaching customers in attempting to stop she frequently bumped against them, and several times had pitched forward, falling in several instances against the person she was approaching.

She again consulted an ophthalmologist about a year after the first one. This physician made a diagnosis of albuminuric retinitis, as there was some neuritis and macular change. At times also there was a small quantity of albumin in the urine, but no casts. This neuritis and macular change was no doubt the beginning of the papilledema. For some time also, even before consulting an ophthalmologist, she had what she termed "bilious spells"; she would waken suddenly in the night with severe vomiting, expulsive in character, and which nothing would control. She had temporary loss of vision, sometimes lasting for a minute or two, sometimes very transient. She told me she had noticed that for at least two years, in getting into a wagon, she would reach for the dashboard to support herself and would miss it, and had fallen in doing so several times and had become afraid to make the attempt, either to get out of or into a wagon without help, and that her legs seemed weak. Her mother had noticed also that she staggered in walking; that she was continually bumping into things about the house, and had fallen over a chair several times. Vision had rapidly failed, and her vomiting attacks grew so frequent and she staggered so badly that she gave up her position and remained at home. Her ophthalmologist said that nothing could be done for her; that the kidney disease had made her lose her sight.

Examination.—When I saw her there was no vision in either eye, nor had there been for six weeks, when she said the last light perception failed. The pupils were widely dilated with no reaction to light; the right cornea was anesthetic, the left partly so. There was marked exophthalmos of both eyes. There was still some evidence of papilledema; both nerve-heads were atrophic. I was unable to decide in which eye there had been the first or greater edema, as both nerve-heads seemed equally atrophic. In both retinas there were remains of numerous hemorrhages, which were nearly absorbed. I could not make out any macular change. The veins were large, dark and tortuous, and the arteries small, with deposit along their sides near the disk. There was marked nystagmus of both eyes, much exaggerated on extreme rotation to the right; the left eye turned to the outer side a little. There was very little headache, but what she did have was occipital. The patient had difficulty in speaking; there was no paralysis of the vocal cords, and the tongue protruded straight, but the left masseter was weak. There was total loss of taste and smell, and there was partial deafness in left ear, both for air and bone conduction. There was a small amount of albumin in the urine, but no casts. Patellar reflexes were lost; the patient was unable to stand with feet approximate, but could do so with feet apart, though with great swaying; she staggered badly on attempting to walk, chiefly to left side. In fact, she would fall after she had taken a few steps unless supported.

Course of Disease.—A Christian Science healer stepped in at this juncture of the case, and after receiving glittering promise of cure the easily deluded family asked me to step out, and let her try. After several weeks, and after the healer had assimilated the family's store of funds, which were very limited, I was again called in; but did not claim ability to cure, as did the healer. I advised operation, but it was refused, as I could not, of course, promise return of vision. The girl finally lost all ability to stand, was absolutely deaf in the left ear; had great difficulty in swallowing anything, but could swallow semi-fluid better than fluid. She was unable to converse so that any one could understand her but her mother. There was a constant flow of saliva, and the left corner of the mouth drooped. The patellar and plantar reflexes were abolished. The optic nerves were completely atrophied, and no light sense remained. The patient continued for some months in this condition and finally died suddenly.

Necropsy.—There was no change in the cerebrum or ventricles, but there was a large pear-shaped tumor in the left cerebellopontile angle, which had attacked the eighth nerve, and this nerve was embedded in its substance. The growth was also adherent to the periosteum of the petrous portion of the temporal bone. The pathologist's report follows:

"Specimen consists of the tumor of the brain measuring 4 cm. in its greatest diameter. The tumor mass seems to be well encapsulated and to have grown equally in all directions. The cut surface presents a mottled, dirty gray, reddish and whitish coloration, the red areas being due to numerous blood-vessels distended with blood. The white, apparently fibrous tissue strands, have a more or less radiating distribution. The consistency is variable in different areas, being greater in the dense, white connective tissue strands.

"Microscopic examination reveals an arrangement of the cells, diagnostic of fibrous sarcoma. The sarcomatous elements do not predominate, and the tumor histologically seems not to be very malignant, but the size of the nuclei is irregular. The peculiar arrangement of the cells and of the blood-vessel formation, positively indicates a malignant condition of the fibrous tumor. The adjacent brain tissue, beyond some softening, shows no important changes."

CASE 4.—*Patient.*—E. D., female, aged 24, a domestic, was first seen in January, 1906. She had been told, from an examination of her eyes and the presence of albumin in the urine, that she had Bright's disease. About two years ago she noticed that her legs were weak; she staggered in walking, but did not fall. For a year past she had thought her eyes were not right; she could not see clearly, and frequently everything before her eyes would disappear; she could not see for a few seconds, then things became clear. She began to have nausea and vomiting, and about this time noticed that she was growing deaf in the right ear. For three months before I saw her she had severe headache.

Examination.—She was blind in each eye, but light perception was present. The ocular movements were carried out in a jerky manner, and I thought that I could detect nystagmus at times, although this was transitory, and not exaggerated, in either direction. Pupils were dilated; the right pupil responded when light was thrown in from the temporal side, in which position it was recognized. The left pupil did not respond to light. There was choked disk in each eye and also advanced atrophy in each disk; there was 6 diopters swelling right and 7 left. There was no paralysis of the ocular muscles. In the right ear there was hearing only for the Galton whistle; bone conduction was nearly lost. In the left ear hearing was not impaired. It was impossible for the patient to walk or stand without being supported; she complained of a queer feeling as of numbness in the right side of the face. The tongue was protruded straight; and the right eye-ball seemed a trifle more prominent than the left. The patellar reflexes were a little exaggerated, but no Babinski sign could be elicited.

Operation.—I told both the patient and her family of her condition, and referred her to Dr. Charles H. Frazier, of the University of Pennsylvania Hospital, who, in conjunction with Dr. de Schweinitz and Dr. Spiller, examined her, and concluded that an operation was necessary. On February 23, Dr. Frazier removed the bone overlying the right cerebellar hemisphere. Following the operation, and before the next one was done, the choked disk subsided from 7 to 3 diopters; but of course there was no return of vision. The hearing improved, and the nausea and vomiting ceased; headache disappeared, and there was improvement in ability to walk, so she could get about the ward with very little assistance.

Subsequent History.—On April 7, owing to the fact that headache and vomiting had recurred, it was decided to make an attempt to remove the tumor which was supposed to exist. On opening the dura, the cerebellar hemisphere was found to be under considerable tension; it was almost impossible to expose the cerebellopontile angle, but on introduction of the finger a tumor about the size of a hen's egg, firmly adherent in the angle between the pons and the cerebellum, was discovered. The tumor was removed almost intact, and proved to be fibrous.

For the first few days after the operation, while the patient suffered considerably from shock, yet her condition was not such as to cause any apprehension. However, about the sixth day after the second operation, the circulatory and respiratory apparatus began to fail, and the patient died[1] April 15.

CASE 5.—*Patient.*—J. L., aged 25, female, consulted me on Aug. 31, 1906. She came to me because of severe headache, and said that at times she had loss of vision, lasting from an instant to several minutes. She also said that at times she had some nausea. She said for at least six years she had been a sufferer from headaches, the attacks varying greatly in intensity, but for the last six months they had been much more severe than ever before. Her sister, who was with her, did most of the talking; and until I requested her to let the patient answer my questions the patient herself had volunteered little information.

Examination.—Vision in each eye was 20/15; under a mydriatic it was the same. The patient was very slow to answer questions; and it seemed to be a long time before she comprehended the meaning of my questions. She was apathetic, seemed confused in manner, and said also that she had been depressed recently. The right disk had beginning neuritis and swelling, chiefly under the superior and inferior retinal vessels as they emerged from the nerve-head. This swelling amounted to 3 D. in the right eye. It shaded off rather abruptly, and the rest of the disk margin on both sides could be plainly seen, although there was some redness all over the disk. The same change existed in the left eye, where the swelling was at the superior and inferior disk margin; the vessels overlay the edema. The swelling was measured with plus 2. The disk margins were plainly seen, both to temporal and nasal side, except where the swelling had taken place, as stated. In the left eye, there was a very little transudation to the outer side of the disk, where a vein crossed an artery. There was not much, if any, change in the size or color of the vessels. I could not make out that there was evidence of venous obstruction. The field, roughly taken, seemed but little contracted, if at all. I did not try the color field. The patellar reflexes were normal. There was no nystagmus, or paralysis of the eye muscles. Plantar reflexes were lost, but station was good. Ear tests were negative, and the finger and nose test was also negative. The grasp of the two hands was equal.

Course of Disease.—The next day I saw the patient again, and her condition was the same. I asked her to report again in two days, but she did not do so. However, one week from the day I first saw her I was called to her home. I found her in bed, and only semi-conscious. Both pupils were widely dilated, and did not react to light. Both disks were choked, and each had 7 D. of swelling. There were large hemorrhages in both retinas, and drooping of the right eyelid. Pulse was 50, temperature 98, and respiration 14. The patient did not give evidence of much suffering. She could swallow readily, but I could not get from her intelligent answers.

Three days later, complete ophthalmoplegia took place in the right eye, and paralysis of external and internal rectus of left eye, but the patient could move the left eye up and down a little. Both eye-balls were somewhat prominent. Pulse was 45, temperature 97, and respiration 16. The disks measured about the same in swelling; both pupils were widely dilated, and did not react to light. The patient's answers were very confused as to what she could see. She said at one time that she could count fingers, and again that she could not. She did not seem to notice the bright light from the ophthalmoscope when her eyes were under examination. Patellar reflexes were lost, and no Babinski sign was present. There was no motor paralysis, except of eyes as stated. From the very rapid onset I thought that there must be a focus of pus some place in the body, and again looked over the ears for any source of pus there, but they were normal throughout; still I thought that there must be a brain abscess, because of the slow pulse and subnormal temperature. There was no leukocytosis, and the hemoglobin was nearly normal in amount.

About one week after I first saw the patient in bed she had several convulsions. They usually began in the left arm and were Jacksonian in type, and did not seem to be brought on by change in position. After having had several of these convulsions she seemed to brighten up, and could speak much more clearly, yet remained in a very confused condition. In the absence of her nurse, she got out of bed and walked about the room, but her vision was very much reduced, although she asserted that she could see better with the left eye than with the right. There was no sensory disturbance about the face, nor was there loss of special senses. The pulse remained very slow and full; respirations were slow, and temperature remained subnormal. I strongly advised operation, as I thought that there must be great increase of intracranial pressure; and, in the absence of a cranial surgeon and expert neurologist I advised making a right temporal decompression, which was refused. The patient again grew worse, and died four weeks from the time I first saw her.

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[1] A more complete general report by Dr. Frazier of this case can be found in THE JOURNAL A. M. A., Sept. 22, 1906, p. 923.

Necropsy.—The left temporal lobe was found to be the site of a large softened tumor occupying the upper and posterior part of the lobe. It was very soft and vascular, but there were no free hemorrhages in its substance. The rest of the brain was normal, and there was no pathologic fluid in the lateral ventricles. The mass proved to be a sarcoma.

CASE 6.—*Patient.*—M. J., female, aged 51, had always been healthy until about two years ago, when she suffered an attack of influenza, which left her weak. After getting up, she noticed that she was dizzy at times and occasionally vomited. She grew so dizzy after some weeks, and staggered so much in walking, that she used a cane, and had been walking with a cane for over a year. On one occasion she fell during a period of dizziness, and the local physician said that she had fractured two ribs.

Examination.—I saw her Oct. 1, 1906. She complained of severe headache, chiefly in the frontal region. She said that she had blind "spells"; and that she was losing her hearing in the left ear; and had very troublesome noises in that ear. Her right ear was normal; with the left ear she thought she could hear a watch when pressed close, but there was no bone conduction. Her vision was, right 20/20, and left 20/20. The pupils reacted to light and convergence; both disks were choked. No hemorrhages could be seen in either eye. The right disk was best seen with plus 6, left with plus 7, but there was 3 D. of hyperopia in each eye. The patient was ataxic, pitching chiefly to the left side, and was apt to strike against the side of the door in passing through. She swayed badly with the eyes closed, chiefly to the left side. The right patellar reflex was retarded; the left was lost. There was some impairment of smell and taste. The Babinski sign was not present. The patient had consulted several ophthalmologists, and had been told she had spinal trouble. One ophthalmologist told her she probably had basilar meningitis. On examination, the urine was found normal.

Operation.—I referred the patient to Dr. Charles H. Frazier, who did a decompressive operation in the left occipital region on October 15. A cyst was found underneath the left cerebellar hemisphere and was evacuated. On retracting the cerebellum, a tumor was found in the left cerebellopontile angle; it was very adherent to the surrounding structures, but was not removed. A small section was taken, however, and examination showed it to be a fibrosarcoma. Following the operation, the patient did nicely, but about two weeks later began to have severe nausea, vomiting, and considerable pain. A second operation was done, and the intracranial pressure was found to be considerable; the dura was slit freely, and the wound closed. For some days the vomiting seemed to be increased. She was very ataxic. She also developed some rise of temperature, which ranged from 99 to 102 F. This soon cleared up, but the vomiting persisted.

Subsequent History.—When the patient was sent back to me on January 7, the right disk measured 2 D., and her left 1 D. She said that she still had periods of vomiting, and staggered in walking; and had some difficulty in swallowing. Vision was better, and her sense of taste and smell had partly returned.

July, 1907: She had but 1 D. of swelling of the disk in the right eye, with vision of 20/20; and congestion only of the disk in the left eye, with vision of 20/15. With her reading glasses she reads J 2. I thought I could detect some beginning atrophy. She still walked with a cane, and said that she did not remember well.

June 16, 1908: The swelling of both disks had disappeared, but there was evidence of former choking, and some deposit along the vessels near the disk, although the vessels were not altered in size. The patient could hear a 512 C fork in left ear for twenty seconds, but had no hearing for watch on contact. She complained of some numbness in her left hand and arm; and that she frequently choked in swallowing liquids.

Feb. 26, 1911: The last time I saw the patient, there was no swelling of either disk, but still some redness, and showed deposit of fibrous tissue about vessels. With her distance correction she sees 20/15 in each eye. She has a little bone conduction in the left ear, but there was no hearing for watch. She has been going about her duties since I last saw her; she works about her farm, but says that she has noticed that frequently she drops things from the left hand, and that her gait has been very unsteady for the last year, and she feels much more confidence in herself if she carries a cane. There is a large hernia cerebri about the size of a small hen's egg at the site of the operation. She says that at times this is much harder, as she expresses it; and that at those times she notices she is apt to be less steady while walking. She still has some trouble about eating; says that liquids no longer choke her, but that solids frequently do. She suffers no pain; is satisfied now that she will keep her vision; is cheerful, and regrets that she did not have her operation earlier.

CASE 7.—*Patient.*—J. D. M., male, aged 23, machinist, consulted me March 25, 1908, for severe headaches, which he stated he had had since boyhood. Recently they have been much more severe; and about three weeks before consulting me he began to have attacks of vomiting. The vomitus, he stated, was bilious. He has not been free from headaches for three weeks, and the pain is referred to brow and occiput. Just before these severe headaches came on he had noticed dimness of vision at times, and occasionally diplopia. The latter was not constant, however, and was more apt to come on when he was tired. There was no nausea preceding the vomiting. He has vertigo, which began about six weeks before I saw him, and he has had dizzy spells daily since. On two occasions he had fallen, when these dizzy spells began, once on the street. After this attack he seemed confused mentally and did not appear well. With the vertigo he says he feels a peculiar sensation in his left hand and arm, like the arm being "sleepy." Patient had not been working for the past six weeks. He seemed slow of comprehension in answering questions.

Examination.—Vision in right eye was 20/15. Patellar reflexes were normal. The patient had a homonymous diplopia. The right disk had 3 D. of swelling, and the left 2 D. The right ear was normal for watch and bone conduction; in the left ear watch could be heard but 10 inches, and whisper 5 feet. I told him of the nature of his trouble. He had denied any history of lues; and on close questioning there seemed to be no specific family history.

Consultation.—I referred him to Dr. Frazier, of Philadelphia, who, in conjunction with Dr. Spiller and Dr. de Schweinitz, examined him. Their opinion was that he probably had a brain tumor, but that an operation was not imperative at that time. It was also suggested that he might with safety wait a little time while a course of mercury and iodid was tried, which was done.

Course of Disease.—The patient soon began to improve; his vertigo and vomiting subsided, the neuritis rapidly lessened; and on examination in the following June he had but 2 D. of swelling in the right eye and 1 D. in the left, chiefly to the upper side of each disk. He complained of some headache, and of deafness in the left ear. He was feeling very much better in every way, was quicker of comprehension; had returned to work, and had not fallen or noticed that he staggered recently. I have examined him from time to time since; and on my last examination, Feb. 26, 1911, Dr. Frazier being at my office, there was no swelling of either disk, but both were reddened. The patient said that he had worked steadily, and had splendid health since being given the specific treatment; and that he had kept it up at times ever since his leaving the hospital. There is no diplopia, and the patient feels that he is cured.

Case 8.—*Patient.*—In June, 1908, I was on my vacation, and was asked by a physician in a small country town to see what he thought was a very obscure case in a child of 2½ years. The child had been ill for several months; had had difficulty in retaining food, had not been able to walk, and an attempt usually brought a fall, more often to the left side.

Examination.—I found the child sitting on the floor, its left hand at its side, spread out on the floor as if in the position of bracing itself. The head was large and undoubtedly hydrocephalic. The child looked fairly well nourished. There was no dilatation of the pupils, and the reaction to light was normal. There was no strabismus. Having no ophthalmoscope with me, and feeling sure that the trouble was central, as the attending physician had suggested, I left some atropin to be instilled; and the next day I again visited the patient with a retinoscope of my own devising—a small toilet mirror, from which I had scraped some of the silvering on the back of the mirror—with which I examined the fundi. I found choked disk in each eye, but was unable to estimate the amount of swelling.

The case occurred some miles from Fort Wayne, and I referred the patient to Dr. A. A. Bulson, who wrote me, under date of July 8, 1908, as follows: "The child has double choked disk, and all the elements of intracranial pressure; is unable to walk or sit up or use its arms. The tendon reflexes are entirely absent. There was but little response to the pupillary reaction, and the family reported some transient facial paralysis, and while the child was in Fort Wayne it developed a partial facial paralysis on one side. Owing to the unfavorable outlook given the family, they took the child to an osteopath, who diagnosed a vertebral dislocation, which he said he could cure. I do not doubt this was a cerebellar lesion, although there seemed to be a general meningeal involvement."

The child is still living but is totally blind; it can recognize different members of the family by their voices. It has occasional convulsions, is helpless and is only able to utter a very few words. The head is extremely large.

Case 9.—*Patient.*—In February, 1908, I was called by Dr. A. W. Booth to see C. Y., aged 55, an accountant. For some months past he had had what he supposed was digestive trouble, and had frequent attacks of vomiting. He also had severe attacks of vertigo, with dim vision lasting from a few seconds to several minutes, at which times he said he had great difficulty in maintaining his balance. He had also noticed for some months past that in walking he invariably deviated to the left; and it was difficult for him to follow an ordinary walk without unconsciously getting to the left side. He had also noticed that at times his legs seemed weak, and that he staggered. The vomiting was expulsive in character, and at times he choked while eating. The vertigo and vomiting had necessitated his going to bed, and if he was lying prone he was much more comfortable; only that at times he had severe vertigo in this position.

Examination.—The patellar reflexes were normal. The field for form roughly taken was normal. There was no paralysis of eye muscles, nor was there drooping of the lids. The movements of the eyes were carried out in a somewhat jerky manner, and the patient was unable to rotate either eye to the left side as far as he could to the right. At times he had some nystagmus when the eyes were rotated to the left. There was no defect in vision in the right eye, and there were no fundus changes. In the left eye, the upper margin of the disk was a little obscure, and there was a little congestion of this disk, but not what one would call a neuritis; vision was normal. Sitting up quickly in bed was apt to bring on vomiting and an increase of nystagmus. The patient had no loss of taste or smell, but was totally deaf in the left ear.

Three years before he had consulted me concerning his ears; and my notes show his bone conduction in that ear at that time was not normal; and his hearing for the watch 10 inches, and he suffered from tinnitis aurium. At this time he did not complain to me of any of the symptoms here given; and thought that inflation several times did his hearing good. He, however, did not return to me for further treatment.

If he was set upright in bed, and especially if taken out of the bed onto a chair, he began to have attacks of typical Jacksonian epilepsy. The attack began invariably in the left hand and arm; then spread to the left foot, and rapidly became general in character, and was of short duration. There was no exaggeration or loss of patellar reflexes. The patient was clear in mind, but was often puzzled to speak the word he wished, and at times his speech was difficult. He had no sensory disturbance or motor paralysis. From his inability to retain food he rapidly emaciated, and died about six weeks after I first saw him.

Necropsy.—The cerebrum was found normal throughout, but the left hemisphere of the cerebellum to the outer side was the site of a large, irregular, softened mass, which on examination was found to be sarcoma.

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ABSTRACT OF DISCUSSION

Dr. Harvey Cushing, Baltimore: A thorough neurologic examination is an arduous undertaking. It means an individual study of hours' duration, such a study as can be satisfactorily made only when the patient is in the hospital under observation for a number of days. Even for a proper investigation of the ophthalmologic conditions alone a long time is required if perimetry is to be invariably included, as it should be in all cases where tumor is even suspected; and when we consider the fact that we must examine not only the other special sense organs with like care, but the functional status of all the cerebral nerves as well as of the cerebrum and cerebellum themselves, the examination of a single case becomes an elaborate and time-consuming matter.

It is wise to follow a definite rule of procedure, so that no individual symptom deserving investigation will be found subsequently to have been overlooked. It would be well if we could all agree on some definite schedule which all would follow. It would greatly lighten the labors of all who feel called on to peruse the records of neurologic examinations if a certain sequence in the record were invariably followed.

We have seen many illustrations of so-called "albuminuric retinitis" in individuals who were subsequently proved to be carrying tumors. We have, contrariwise, seen patients who to all appearances were suffering from brain tumor who were subsequently shown to have nephritis. It is often exceedingly difficult to distinguish the changes in the eye-grounds in the two conditions.

It is interesting that in one of Dr. Voorhees' cases the patient appeared to have these periods of temporary amaurosis as an early symptom of the disease. I had always supposed this to be a relatively late symptom of choked disk. At all events these periods of passing blindness are much more frequent comparatively late in the disease.

We are inclined to agree with Sir Victor Horsley that in supratentorial lesions the choked disk is apt to be greater on the side of the lesion, but this refers to the length of the process rather than to the measurable height of the swollen nerve head. A choked disk which has advanced to the stage of atrophy with blindness due to the new tissue contraction and consequent lowering of the height of the disk may again become elevated with removal of cerebrospinal fluid tension. One must remember, too, that a supratentorial lesion, such as a lateral recess tumor, may exist for years without any change in the eye-grounds, until a slight blocking of the iter may cause a choked disk of high degree to appear abruptly. Again, a pituitary tumor may reach a considerable size and cause primary atrophy alone, but a choked disk will be immediately superimposed as soon as the growth projects into the third ventricle far enough to produce a ventricular hydrops by blocking the foramina of Monro.

So far as the eyes are concerned, the results of operation in the late stages are not very brilliant. The chronic changes and new tissue formation often shut down on and effectually choke the optic nerves; and in a patient who still retains some degree of vision before operation it is heartrending to have the perception of light fade away after a successful decompression which has relieved all the other symptoms. The failure to make careful neurologic studies, such as Dr. Voorhees has given his patients, until vision has been nearly lost, not only may court the disaster of blindness, but may effectually prevent any subsequent possibility of making a localizing diagnosis. This is likely to be so since we are cut off from all recourse to perimetry, and perimetry is often the only possible aid to the localization of occipital and temporal lobe tumors.

With our present means of recognizing, and vigorous measures for combating syphilis, we no longer need to elaborate on the advisability or otherwise of preliminary specific treatment in these cases. The presence of a positive Wassermann reaction justifies delay for a week or two at the most. Vigorous treatment and possibly the use of salvarsan will promptly decide whether the process will lend itself to these corrective measures. In case there is any doubt, provided the eyes are seriously implicated, it is much better to decompress first and institute medicinal treatment later, for many of the fibrous cerebral gummata are notoriously resistant to the usual antiluetic measures. We must not forget, too, that pressure symptoms of certain of the gliomata are ameliorated temporarily by massive doses of the iodids. This fact has proved the source of dire misfortune for many, a poor soul actually carrying a removable non-syphilitic growth.

Dr. Sherman Voorhees, Elmira, N. Y.: What has been driven home to me is the fact that these cases come to the ophthalmologist so late, and that they have been treated for all manner of things by their family physicians. If the patient has had vomiting they have done all sorts of things for stomach trouble; and if he has complained of headache he has been treated for headache, and it has been symptomatic treatment all the way through until the time has gone by when anyone can do much. But for that vomiting and for the relief of the extra-mental symptoms that occur late in brain tumor, I believe that decompression is warranted. I have had a number of decompressions done—two just recently—in which the vision failed rapidly after the decompression. It occurs, not because of the decompression, but because of the changes inaugurated prior to the operation; but it seems to come on more rapidly after the operation. The temporary amaurosis Dr. Cushing speaks of I have taken largely from the statements of the patients. In one case the patient said the first thing he recognized was this temporary blindness. He would be walking about or at the table, and would be suddenly seized with blindness, which would clear up. That case had gone on to complete blindness before any neurologist or ophthalmologist had been consulted. It was simply to call attention to some things in the differential diagnosis that I have reported the cases. I have some seven other cases that I mean to report soon. Whether I have seen more than some one else I do not know. I shall ask Dr. Cushing. I am glad that I live close to Baltimore and Philadelphia where I can have the opinions of the best surgeons and neurologists, as I have often done. Dr. Cushing speaks of the side of the greater swelling, and especially of the change, in the nerve-head, as determining which side the lesion is on. In a case which I have had of subtentorial decompression the patient came with a neuritis of the right eye, occupying about seven-tenths of the right disk, with absolutely no change in the nerve-head until about eight weeks following, when there was a neuritis on the left side but with deafness in the left ear. The patient was a woman of 62. At the operation we found a tumor of the left hemisphere of the cerebellum.

Tests of Efficiency for Hygienic Measures.—It is impossible at present to apply direct tests of efficiency to some measures that undoubtedly promote health, says Prof. E. O. Jordan in Science (June 2, 1911). The influence of playgrounds, public baths, regulation of the hours of labor in extra-arduous industries and the like is real if it cannot be accurately determined or estimated. Many topics need investigation in order to discover their real bearing on the public health. Among these are such matters as the effect of a smoky atmosphere, the alleged nervous strain due to city noise and numerous important questions in the domain of food adulteration and contamination.

SUBHYALOID AND VITREOUS HEMORRHAGES

A STUDY OF POSSIBLE SYSTEMIC CAUSES *

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This paper is a study of a subject of which we confessedly know very little, and is undertaken for the following reasons: 1. Its importance. 2. The possibility that what I shall call the "new attitude" of members of this Section toward ocular lesions of uncertain etiology may, during discussion, bring out important truths. At any rate, this "attitude" means that oculists are awakening to their own responsibility of tracing systemic causes, not simply making the diagnosis of ocular condition and referring patient and diagnosis to some physician, who, the oculist is often sure, will go no farther.

This mental change on our own part is worthy of emphasis, and if, for the time being, we can do little more than recognize the problems, we should keep their existence constantly before us. Their nature may be briefly stated: Syphilis, tuberculosis, rheumatism are thought to be the most prolific causes of eye diseases. The first is often undiscoverable clinically or in the history of the patient. The same is true of the second. As to the third, excluding gonorrheal arthritis, and limiting consideration to the disease arthritic rheumatism, the average oculist, after years of experience, can probably count on the fingers of one hand the cases of "rheumatic" eye disease which he has observed. Yet when he enters the great *terra incognita* of "chronic" rheumatism, "muscular" rheumatism, etc., cases abound. He cannot define this condition; neither can his confrère, the internist.

Modern methods of studying mysterious eye lesions are based on the use made of laboratory evidence and pathologic results of syphilis, tuberculosis, and what really underlies that group of general symptoms to which the term "chronic rheumatism" has for years been applied, and which, in one form or another, so often are associated with ocular lesions. How study of this sort has taken us into fields we little dreamed of, one can easily see by looking at our proceedings of the past few years. What is true of the three systemic troubles mentioned, is equally true of constipation, menstrual and pelvic anomalies, anemia, malaria, nephritis, pregnancy, etc. In other words, given an ocular condition, functional or organic, not accounted for by the state of the eye itself, it becomes our duty to note everything wrong anywhere, and to determine the effect of this on the eye.

It was in this spirit, and at the request of our Chairman, that I undertook the study herein presented. I felt in the beginning that my personal experience and knowledge were totally unequal to the task. A review of even our newest text-books showed that little regarding underlying conditions is known. The objective appearance of vitreous and subhyaloid hemorrhage is given. Some authors stop there. Others state that the source of the hemorrhage is usually the uveal circulation, with the retinal vessels occasionally responsible. A few, notably, Fuchs, de Schweinitz and Weeks, tell about the reasons for the break in the vessels. But all this is rather suggestive than conclusive, and necessarily so; for it is not the function of a special author to do more than suggest lines of general investigation. In current literature, many cases are reported with nothing except the objective findings, age of patient, etc. In only a few, so far as I have been able to discover, are the reports specially instructive.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Then I decided to turn to men in our own Section, men of large clinical experience, trained observation and judgment, and to ask their aid. They were all busy men, and for their help I wish to express the warmest thanks. Many took the trouble to analyze their cases, while others, with no time to do this, gave, what is just as valuable, convictions based on long observation. I regret that some of the replies have come in only while this introduction is being written, and too late for incorporation in the report. Nor could I, without making the paper inexcusably long, even seek information from all available sources. A few special features were dwelt on in my inquiries: age, condition of the eye, systemic lesions, blood-pressure, fate of the affected eye and of the patient. Some of my correspondents had never seen cases, and one asked what I meant. This is not particularly surprising when one considers that in an article by Scrini and Bourdeaux,[1] it is stated that "essential relapsing hemorrhages" appear about once or twice in 5,000 cases. Following are some of the replies I received:

REPORTS OF OBSERVATIONS

DR. MELVILLE BLACK, Denver: Youngest patient 21, oldest 72. When blood-pressure was low I usually found dilated heart or auto-infection. With high blood-pressure, arteriosclerosis, incipient and advanced kidney degeneration. Blood-pressure was taken in every case in last eight years, and was less than 110 in 60 per cent.

Ultimate Results:—Glaucoma resulted and enucleation was done in two cases. Young patients with low pressure usually recovered, though one patient had four relapses. General health normal. Older patients with arteriosclerosis, nephritis, high blood-pressure did well or badly according to progress of general disease. Absolute milk diet recommended for reduction of B-P.

DR. JAMES H. BORDLEY, Baltimore: *Case* 1.—Female, aged 52, had repeated hemorrhages from 17 to 29; dense hyaloid opacities in right eye, in left, vision = fingers (?). Both lenses, which were clear, were removed and hyaloid needled. Right eye showed proliferating retinitis. Left recovered V. to 10/50.

General condition: Aortic stenosis; blood-pressure 190; nephritis, indicanuria; patient later developed carotid aneurysm.

Case 2.—Woman, aged 56, had vitreous hemorrhages from 18 to 30. Sight completely lost at 40. Lenses cloudy, no light perception in either eye. Aneurysm of aorta, nephritis, indicanuria, tuberculosis of lungs; blood-pressure 220.

Case 3.—Man, aged 45, had been in German army, but compelled to retire at 23 because of repeated vitreous hemorrhages in right eye; right eye was phthisical; left had cataract. After removal, retinitis proliferans was found but sufficient sight remained to enable patient to do moderate laboring work. Blood-pressure 185; casts, indicanuria, albumin, arteriosclerosis; patient reacts to tuberculin.

Case 4.—Man, aged 26: history of lost right eye at 23, retinitis proliferans. In left, vitreous hemorrhage. General condition: Blood, normal; blood-pressure, 110; hard radials, indicanuria; positive reaction to tuberculin, but no clinical tuberculosis. Under tuberculin *treatment, and later potassium* iodid, hemorrhage cleared and V.=20/30. Several months later it was learned through the mail that the left eye had gone completely blind. Cause unknown.

Case 5.—Man, aged 29, had first hemorrhage at 20 in right eye; several hemorrhages [illegible] a few months. Left eye attacked two years later. No hemorrhage for three years. Marked retinitis proliferans, but with sight good enough to enable patient to hold a semiclerical position. Blood-pressure was 115. Patient reacts to tuberculin; there was no clinical tuberculosis; Wassermann *negative; marked and persistent* indicanuria.

Case 6.—Man, aged 23, had first hemorrhage in left eye at 23; twelve since, becoming more frequent the past year. Tuberculin reaction positive; Wassermann negative; healed lesion at right apex; arteriosclerosis; blood-pressure taken by different men and with different instruments, constantly varied from 120 to 220; urine normal, but for very marked indicanuria. Patient was treated with small doses of tuberculin, two injections of animal serum, and later sent to the mountains, where he did well; gained in weight and had no more hemorrhages.

Bordley reports also having seen several patients with brain tumors, the extravasations absorbing; states that he has seen a great many cases but kept no notes.

DR. H. B. CHANDLER, Boston: Four cases *recently in private* practice, all males, between 25 and 34. Three of them had one eye affected, one both eyes within two years. Nothing else wrong in eyes, and careful physical examination revealed no cause. Tuberculin *tests not used*, as from Chandler's experience in infirmary, all cases reacted positively. Blood-pressure taken in only one case; abnormally high. Treatment: Iodids, sweating and injection of blood-serum with improvement in vision in all cases.

DR. ALBERT E. BULSON, JR., Fort Wayne, Ind.: *Case* 1.—Man, aged 21, seen four years ago, was blind in one eye from extensive vitreous hemorrhage. Patient was under constant observation for year and a half. He had some fifteen or more hemorrhages during these years, one following the other so closely that for a long time fundal examination was impossible. Eventually the hemorrhages ceased, the vitreous cleared and left 20/15 V., which has persisted for two years. The *most painstaking clinical* examinations were made without results, save pronounced indicanuria. After clearing of the *vitreous, no lesion was found in the fundus.*

Case 2.—A healthy young farmer had been under observation a year and had fifteen or twenty hemorrhages, each following rapidly on its predecessor. The fundus has never yet been seen. The man had some hemorrhages while in bed. He left the hospital and returned to his work. Recently he wrote that he had not had a hemorrhage for several weeks and he could read the headlines in the papers. The man has been subjected to rigid clinical and experimental tests, but nothing has been found save a persistent and excessive indicanuria. Both of these patients were treated with diaphoresis, potassium iodid, etc. The reporter thinks the blood came from the ciliary bodies in both cases, largely because there was no evidence of *fundal lesion*, and the retinal vessels, when uncovered, were unaltered.

DR. JOHN T. CARPENTER, Philadelphia: Patient seen in 1898 (only one in private practice), was a man, 30 years old, with intense neuroretinitis with retinal hemorrhages and exudates, veins swollen and tortuous, followed by recurrent vitreous hemorrhages, leaving vitreous dark. General health was excellent, but patient was an alcoholic. There was family history of gout. Patient was very constipated. Eye was *totally* lost and reflex destroyed.

DR. E. A. DAVIS, New York: *Case* 1.—Man, aged 30, was first seen for refraction error; V. 20/15 in each eye. A year later patient suddenly lost sight in right eye from vitreous hemorrhage on temporal side. Davis thought the blood came from chorioid, as at the upper end of the *hemorrhage* near the macula, the sclera showed through. Retina was partially detached at the temporal side and below. V.=*fingers* at 4 *feet*. In left eye there was subhyaloid hemorrhage just below macula, with a few fine retinal hemorrhages. V.= 20/20, in spite of lesions. Only systemic abnormality was traces of albumin and a few hyaline casts. Under treatment, nephritis cleared and hemorrhage was absorbed. In the right eye, which first showed extravasations, blood absorbed and retina reattached, with V.=20/30. Later retinitis proliferans with reduced V.=fingers. Left eye retained V.=20/15 to last observation.

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[1] Arch. d'Opht., March [illegible]03; quoted in Ann. Ophth., July, 1903

Case 2.—Patient was a woman, married, aged 22. Menstruation did not begin before 21, one year before being seen by Davis. Two days before menstruation V. in right eye was suddenly lost. It gradually returned until it reached 20/30. There was no lesion in the eye. When under observation the left vitreous showed a balloon-shaped hemorrhage V.=4/200, becoming 20/200 after two months. Hemorrhage was thought to be of chorioidal origin.

Dr. Allen Greenwood, Boston: His patients have been between 20 or 40 years of age. None of them showed fundal or systemic abnormality. He describes the history of one patient as follows: "A watch-maker had over thirty hemorrhages, and frequently only light perception in one eye. The other eye had only one hemorrhage. The thirty-odd hemorrhages occurred during a space of eight years. Five years ago the patient was appointed to the police force, and left his sedentary life for an active one of constant walking. No hemorrhages since out-door work, and the eye of many hemorrhages now has a vision of 20/30, in spite of many vitreous strings."

Dr. E. E. Holt, Portland, Me.: Holt thinks that in most of his cases there has been nothing wrong in the eye save the hemorrhage, and that some form of nephritis was demonstrable in most of them. In a case seen sixteen years ago, with V.=0.1, treated with "massage and cataphoresis," normal vision returned after a year, and was present fifteen years later. This was observed when the patient, a woman, came on account of a hemorrhage in the other eye, which recovered under the same treatment.

Dr. B. R. Kennon, Norfolk, Va.: Kennon reports having had but one case, in a man whose first hemorrhage occurred at the age of 22. There were opacities from former hemorrhages when the case was under observation. Careful clinical search did not reveal constitutional lesion. Sight was gradually lost, each hemorrhage destroying a little of what was left.

Dr. F. Park Lewis, Buffalo: Lewis has seen very few cases, and these before tuberculin tests, etc., were employed. A girl of 15 in perfect health, so far as clinical investigations indicated, had one single hemorrhage which resulted in retinal scars that damaged vision. She has since grown into robust womanhood. A boy had during adolescence repeated subhyaloid hemorrhages which destroyed the eye; general health remained unimpaired. He has grown to manhood without developing ill health.

Dr. Charles H. May, New York: May reports three cases, patients aged 16, 20 and 36, all males. In all the eye structures were normal, barring the hemorrhages, and careful clinical study showed nothing. Two patients regained normal vision, one after a month, the other in a year. The history of the other is not known. Tests for tuberculosis were not made.

Dr. H. Moulton, Fort Smith, Ark.: Moulton reports a case in man of 60, with constant recurrences during five years, ending in blindness. General health robust at 70.

A second patient, 45, syphilitic, recovered normal vision in three months, and had no recurrence after six months.

Dr. Moulton adds that his youngest patient was 24, and most of them were between 40 and 60. Intra-ocular structures were normal, or, at the most, showed tortuous veins; often circumscribed patches of chorioretinitis. The majority of his patients showed *positive* clinical proof of syphilis. One case occurred in a cured lung tuberculosis, and no others showed evidence, though tests were not used. Arterial tension was, as a rule, high.

Dr. Brown Pusey, Chicago: Notes on two cases seen during past year. *Case 1.*—Patient was a man, aged 65; eye structures normal. *Nothing* is given about systemic examinations save blood-pressure, which was 200. Hemorrhage first in right eye, clearing in six months, with normal vision. Same experience four months *later in left* eye, and a second hemorrhage after same period in right eye. Patient recovered from all hemorrhages with normal vision.

Case 2.—Man, aged 43, seven years previously, had hemorrhage in left eye, which cleared, followed after six months by loss of eye from hemorrhagic glaucoma. First hemorrhage in right eye was one year, and second, six months before observation. Vitreous was full of opacities, and V.=6/45. Blood-pressure was normal. Tuberculous pleurisy at age of 21. Family history of tuberculosis; office man, always constipated.

Dr. Edgar S. Thompson, New York: *Case 1.*—Man, aged 23; subhyaloid hemorrhage after pole-vaulting. Cleared up perfectly. Nothing in history or general clinical findings to explain hemorrhage.

Case 2.—Man, aged 55, had large subhyaloid hemorrhage in course of albuminuric retinitis. Eye was lost from glaucoma and enucleated.

Some of the men to whom I wrote gave their impressions from observation rather than detailed accounts of cases. Many of these are noteworthy. Bruns, of New Orleans, has seen cases in young adults with nothing else wrong. Some patients recovered, some lost the eyes.

The late Dr. Bull, of New York, thought the subhyaloid variety usually develops destructive chorioretinitis; the vitreous, general hyalitis and uveitis. Patients of both classes are apt to show cardiovascular or renal disease, "if they live long enough."

Callan, of New York, says that in young patients the eye structures are usually normal; in older persons there is arteriosclerosis. He thinks tests for tuberculosis unreliable unless other evidences are present.

De Schweinitz, of Philadelphia, excludes in his letter the hemorrhages in old persons from arteriosclerosis. Others occur between 18 and 30. Intra-ocular structures, he says, are often normal; nothing to account for hemorrhage. He twice discovered patches of chorioiditis. Regarding constitutional causes, he puts first, "so-called auto-intoxication as determined by the tests which I believe to be necessary and which are detailed in my paper on that subject before the Chicago meeting."[2] Tuberculosis, either clinically present or demonstrated by tests, seems to him an important causative factor, but treatment by tuberculin, in at least one case whose record he sent me, was negative. Blood-pressure in these young patients was never high. Most cases went on to loss of the eyes from vitreous exudates, detached retina, secondary cataracts, vascular formation in vitreous, etc.

Ellis, of Los Angeles, says that cases in young people usually resulted in greater or less blindness from such causes as mentioned in de Schweinitz' note. General condition was usually good save for constipation, etc.

Friedenberg, of New York, has no data on tuberculosis. Syphilis was a frequent cause. Anemia with suppressed menses, dysmenorrhea, etc., have been associated conditions. Ocular structures were usually normal.

W. Reber, of Philadelphia, mentions four youthful patients, in three of whom the eye structures were normal. The other showed evidence of sclerosis in the retinal vessels. Three regained normal vision. The hemorrhage in the fourth case occurred while straining at stool.

Risley, of Philadelphia, has seen a few cases in children; thought the vitreous webs and chorioidal patches, which impaired vision, resulted from injury during parturition. Most other cases came in advanced life from cardiovascular diseases. Blood-pressure is usually *high* in this variety. Risley has never seen cases in which he thought it advisable to use tuberculin tests. Many young and clinically healthy adults recover.

Roy, of Atlanta, seems to have had experience confined to the sclerotic cases in advanced life.

Suker, of Chicago, seems to have had the same experience; his cases usually showed some permanent impairment of vision, attributable to the general condition.

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[2] Tr. Sec. on Ophth., A. M. A., 1908

Thorington, of Philadelphia, says that his patients were usually over 50. They improved only when the condition was due to syphilis. Arteriosclerotic or nephritic changes usually present.

J. E. Weeks, of New York, finds that cases usually occur between 15 and 22. Sometimes small venous hemorrhages in the retina precede subhyaloid or vitreous hemorrhages. Among causes he notes establishment of menstruation, constipation, irregularities of circulation. He has never used tuberculin tests. A girl of 16 lost both eyes from secondary glaucoma. In other young persons hemorrhages have recurred without serious impairment of vision.

To these cases, I add five which have come under my care recently.

Case 1.—Mrs. B., 29 years old, first consulted me in 1899 for asthenopia due to simple hyperopic astigmatism of 0.5 D. at 90°. She wore these glasses till she came to me again in November, 1909, to have them changed, as the eyes tired in reading. Vision, accommodation and muscular balance were normal. In both eyes were found numerous exudates beneath the retinal vessels; small extravasations were in each retina, obliterating the vessels, and careful examination showed small hemorrhages in the vitreous. She was sent to the hospital for clinical investigation. Dr. Gordon Wilson, clinical professor of medicine at the University of Maryland, was asked to make the examination, and I am indebted greatly to Dr. J. W. Robertson, now of Onancock, Va., and then hospital intern, for pains-taking observations. Only the following abnormalities were found: Decided accentuation of the second heart sound, and a transient albuminuria, with a few hyaline casts. The daily output of urine never exceeded 16 ounces. Blood-pressure was, on entrance, 240 mm. All the usual remedies were used without effect. Thyroid extract nauseated at once. Milk diet did the same. After a week I asked Dr. Arthur M. Shipley, of the surgical staff, to do a phlebotomy. He extracted 12 ounces of blood, with a blood-pressure reduction to 195 mm., the pressure returning to the old mark within twenty-four hours. Tuberculin tests, subcutaneous and von Pirquet's, were negative. There was not the least reason to suspect syphilis, and at that time I was not familiar with the Wassermann test. An interesting item in the patient's family history is that five relatives in preceding generations had died before the age of 40 from cerebral apoplexy. The patient went home; my diagnosis of nephritis was denied by her local physician, and we all came in for considerable criticism on account of our so-called "thoroughness;" this being the alleged cause of her equally alleged nervous prostration. The patient, however, lost her sight and a year later died.

This case does not, possibly, in the strictest sense, belong to my subject. Some of the small hemorrhages, however, were in the vitreous. Nor is it proper to draw a hard and fast line between various kinds of intra-ocular hemorrhage. The case illustrates one of the points made by Black in his report: the relation of high blood-pressure to the causative disease.

Case 2.—Mrs. T., aged 67, living in a small town in Maryland, was sent to me in December, 1910, for a change of glasses. Correction of low hypermetropia gave normal vision in each eye. Numerous small hemorrhages were found, apparently in the retina, near the right disk. The patient was not willing to stay in Baltimore long enough for a thorough examination, and I had to content myself with finding traces of indicanuria, not apparently excessive, and a blood-pressure of 220 mm. These findings were reported to her physician. She saw me again in February last. The old hemorrhages had absorbed, and there were many little ones in the vitreous, four to five diopters in front of the retina. The only thing in her history of note is a vesicovaginal fistula which was cured by operation. Outside of her right eye the patient seemed healthy; but I suspected that there was something she was unwilling to tell. I could not impress her with the possible gravity of the case, and she would not allow such tests as I wanted to use. At this writing, April 8, 1911, she is reported "well."

Case 3.—During December, 1910, a physician in country practice, 25 years of age, consulted me for sudden blindness in the right eye, coming on during a fit of coughing. A large subhyaloid hemorrhage covered the right foveal region. The retinal vessels could be traced to their usual visible limit, and were normal. No lesion, save the hemorrhage, was found. The left eye had 20/15 vision, and had nothing the matter with it. I had the patient examined by a competent internist, who gave him a clean bill of health with the exception of a blood-pressure of 210 mm., and "decided indicanuria." The man is an athlete, and looks in superb physical shape. He denied the possibility of syphilis or tuberculosis, and showed no indication of either. He was summoned to his home in the South before tests for tuberculosis could be used. A letter from him under date of March 3, states that the eye previously blind can now read large print, and is evidently clearing. I urged on him the necessity of running down the cause, if possible, but if he has undergone further examinations he did not disclose their result.

Case 4.—A boy, 15 years of age, worker in a wagon factory, came to my clinic at the Presbyterian Eye, Ear and Throat Hospital in October, 1910. He showed a left external squint, and stated that he had lost the sight of this eye some six months previously; that it had gone out suddenly, and he had never had the eye examined. The right eye was normal. Examination showed a cloudy vitreous, numerous large opacities and two or three vitreous hemorrhages, well anteriorly. Toward the nasal side could be seen a beginning retinitis proliferans. This boy was told to enter the hospital, but would not do so. I did not see him again until March. General examination showed nothing wrong save a possible slight splenic enlargement. There was some indicanuria, but no excess. Subcutaneous tuberculin test was followed by a violent local reaction and temperature of 100.5 F. There was no external local reaction in the eye, and I could not judge of the intra-ocular effect, if present. Following is the report of blood examination: Red cells, 4,700,000; leukocytes, 29,600; hemoglobin, 90 per cent.; polymorphs, 80 per cent.; small mononuclears, 15 per cent.; large mononuclears, 3 per cent.; eosinophils, 2 per cent. This is simply an inflammatory reaction. The retinitis proliferans shows increase. The general health seems unimpaired, and the patient is continuing his indoor work "until an outside job turns up." The family history gives no indication of syphilis; so, with positive tuberculous findings, a Wassermann test was deemed unnecessary. The fact that the boy was not in the hospital for a day or two before the tuberculin test must be considered in drawing conclusions regarding the febrile reaction. Blood-pressure, 120 mm.

Case 5.—Mrs. T., aged 29, came to me Nov. 15, 1910, for sudden loss of vision in the left eye. The immediate history was that on November 12 she had gone into the cellar to hunt up a reported leak, and had suddenly found herself in water up to her knees. Two hours or so later she knew that something had happened to her left eye. I found the vitreous absolutely black, save for small areas, down and up, which gave a fair reflex. The patient was subjected to a careful physical examination by Dr. Wilson. She was the mother of two children and had had one miscarriage—her first pregnancy. She weighed 140 pounds and looked in excellent health. Menstruation had always been regular, and she had nursed all her children. Syphilis, tuberculosis and intestinal toxemia were excluded by examinations and tests. She was not menstruating when the eye hemorrhage occurred. For want of better indications in the way of treatment, she was put to bed in the hospital, given pilocarpin sweats and potassium internally. After two weeks the vitreous hemorrhage had cleared sufficiently to enable me to see a large subhyaloid hemorrhage over the fovea, and extending nasally over the disk border. A few smaller subhyaloid hemorrhages were seen at the nasal and lower edge of the disk. All of these gradually cleared, the foveal extravasation being the most persistent, while the disk margins were entirely free after a month. On January 19, the patient had central vision of 8/200, and could trace the perimetric disk in all parts of the field. On February 9 I observed a recurrent hemorrhage over the upper and outer disk margin. Blood-pressure varied between 115 and 130 mm. After the second hemorrhage in February, I urged the patient to have some teeth cared for, to which Dr. Wilson had called my attention as a possible portal of entry for infection. What influence, if any, this had I cannot say; but late in March central vision had increased to 20/100, indistinctly, and there had been no further hemorrhages. As study of the fundus became possible, the uncovered retinal vessels came out normal.

DEDUCTIONS

1. *Results.*—So far as the above collective observations admit of analysis, from the standpoint of results, the following is approximately true: Of forty-eight eyes, twenty recovered with practically normal vision to the time of last observation. Seven obtained more or less improvement, the nature of the residual lesion not being given. Seven developed retinitis proliferans, three of these being totally blind, the others preserving sight enough to do some work. The other fourteen were totally lost, four from secondary glaucoma, one from phthisis bulbi, and nine from causes not specified, probably vitreous opacities, retinal detachment, etc. Seventeen out of the forty-eight eyes were lost.

2. *Recoveries.*—A number of cases in the foregoing reports and in literature, showed one hemorrhage, or recurrent hemorrhages, producing temporary and complete blindness. Then normal vision was slowly restored and retained. Nothing was found in the eye to account for hemorrhage. The source of blood is generally ascribed to the chorioidal vessels. This is based on the facts that the retinal vessels, when they can be seen, as in the subhyaloid variety, show nothing wrong, and after absorption of the blood, the same is true. It is hard to think of normal retinal vessels being responsible for so much hemorrhage. A still stronger reason is found in our knowledge derived from recent studies in chorioidal diseases. We know that many pathologic conditions are associated with exudative chorioiditis. Intestinal parasites, "indigestion," chronic appendicitis, and malaria, may be mentioned. We attribute these ocular lesions to toxins or organisms in the blood, and their manifestation in the chorioid to the large vascular area therein. It is not going very far to imagine the same influences breaking down a vessel and producing hemorrhage. So long as vascular resistance is less than the acting cause, recurrence persists. When the cause is removed, through either intelligent diagnosis and treatment or general hygienic management, hemorrhages cease. Note, for instance, the cases reported by Greenwood and Bordley. Recovery of vision must depend on the harm done by one or more attacks, and recurrence must depend on intelligent or accidental removal of the cause.

3. *Concomitant Systemic Conditions.*—Blood-pressure. Black's remark is apparently borne out by the "returns." When high, it is usually associated with nephritis or arteriosclerosis. In each we have conditions directly calculated to produce hemorrhage through a previous arteritis or phlebitis. Bull believed that such patients always develop arteriosclerosis or nephritis, 'if they live long enough. One of my own patients was dead in a year of nephritis; yet no one would have made such a diagnosis on this young woman on the urinalysis and symptoms alone—outside of the intra-ocular hemorrhages and blood-pressure. C. S. G. Nagel[3] reports a case in which retinal hemorrhages were the first symptom of diabetes. (I call attention here to the previously expressed opinion that we must not differentiate intra-ocular hemorrhages too closely according to their situation.) The patient was apparently in good health. Nagel notes Leber's observation that retinal diabetic lesions occur only after years, and when emaciation and general decline are present. Webster Fox[4] discusses the relation of high pressure to intra-ocular hemorrhages, and shows the close relation between them and various forms of nephritis. In the article by Serini and Bourdeaux,[1] the statement is made that these essential vitreous hemorrhages have no prognostic effect on general health. I think that this statement is to be accepted with allowance. Nagel's diabetic, and my first case are illustrations. My third belongs to the class which must be regarded with concern. Something caused the high arterial tension, and the fact that we do not know what it was in no way proves that it is not serious. I cannot extend the paper to quote other authors, but I am convinced that these hemorrhages, accompanied by high pressure, ought to be regarded as a possible early indication of chronic nephritis. But they occur, too, with low pressure. Black expresses the opinion that dilated heart or auto-infection is at the bottom of these. We still have the dilated heart to account for. Usually some systemic infection precedes this. Of course, the passive venous congestion might be a mechanical cause. As to auto-infection, i. e., absorption of either the organisms themselves or toxins, which might act deleteriously on small or terminal vessels, I believe that here we are approaching the main etiologic factor in most cases, and that careful search for the nature of the infection may often lead to the diagnosis of a condition giving no other symptom.

Axenfeld and Stock[5] report a case of a woman, 30 years of age, with a vitreous hemorrhage of the right eye. The left eye was normal; but several weeks later a grayish-yellow exudate appeared in the periphery of this eye. There was also a perivascular exudate along a retinal artery which ran toward the chorioidal focus. There was both general and local reaction to tuberculin in both eyes. "During the treatment with small doses of tuberculin the foci in the chorioid and perivascular exudate completely disappeared, and in the right eye, in which in the meantime an indolent posterior synechia appeared, the vitreous cleared. One must accept that in this case a chronic tuberculous uveitis had begun with the appearance of a simple hemorrhage in the vitreous, which surely had arisen from the retinal vessels." It seldom happens that one can observe such a sequel of events in these cases.

De Schweinitz and Holloway[6] report a remarkable case of retinal hemorrhages in a boy of 20, who gave a positive reaction for tuberculosis. The late Dr. Kipp, of Newark, reported an instructive case[7] in this connection. I call attention to my fourth case, which showed positive tuberculous reaction without symptoms outside the eye. Such observation seems to me to show that these cases, even if the eye gets well, must always be viewed with suspicion, and that it is best to treat them as though the diagnosis was made. Greenwood's policeman (given in this paper), and Bordley's sixth case are examples.

Indicanuria plays a large rôle in these concomitant systemic conditions. There is, I know, discussion regarding its value as a diagnostic sign; but its persistent presence in excess is generally thought indicative of disturbance of metabolism. It was observed in most of Bordley's and in Bulson's cases. It was seen in my series, but not in sufficient quantity to make us think it significant. In another[3] it was abundant.

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[3] Nagel: Ophth. Rec., October, 1904; abstr. in Ann. Ophth., January, 1905.

[4] Fox: Ophth. Rec., October, 1908.

[5] Axenfeld and Stock: Klin. Monatsbl. f. Augenh., January 1911, p. 28.

[6] Univ. Penn. Bull., March, 1910.

[7] Arch. f. Ophth., v. 38.

The frequency of obstinate constipation in the description of these cases leads one to think that indican would be found more frequently if always looked for. It occurs without reference to blood-pressure. Where the pressure was high, as in Bordley's cases, there were other conditions, usually renal, to account for it. The close association of indicanuria with functional and organic uveal lesions has been presented to this Section too recently to need repetition. Vitreous hemorrhage, with tuberculosis (sometimes clinically undemonstrable) shows that this form of infection can produce vascular diseases in the eye. Indican in the urine means intestinal putrefaction, and this means not necessarily absorption of putrefactive toxins, but malassimilation, allowing absorption of other toxins, which, under better conditions, the system might avoid. Here we come against other concomitant conditions. Anemia, unless essential, must have a cause. Dysmenorrhea, amenorrhea, unless due to local conditions, often admit of an explanation which involves nutrition. They are but symptomatic of the same disturbance which causes the intra-ocular hemorrhage, and are not themselves a cause.

To discuss treatment of these hemorrhages is impossible, save to say that for the most part oculists have been using diaphoresis, the iodids, etc. With the natural tendency to absorb, it is hard to estimate the value of these remedies. It seems to me that we should view these cases about like this:

1. In older people, i. e., persons over 50, we usually have signs of arteriosclerosis, and if they are not present, the hemorrhage itself is evidence. Eliminating special causes of vascular changes—syphilis, nephritis, etc.—we have to manage, as best we can—or the internist has to manage—the vascular changes. Along this line, we shall get our best results.

2. In young people, whether there is a single hemorrhage or many, we are probably dealing with some infection or disease capable of producing vascular changes. High blood-pressure throws suspicion on the kidneys, whether or not there are other symptoms of nephritis. Anemia, menstrual disturbances, etc., are but symptomatic of malnutrition probably due to an infection. This may be tuberculous, and may be of some other kind, brought about through defective metabolism. Its presence and nature is to be determined by rigid laboratory examinations.

3. Even when we can find no cause, and have to resort to the "alterative" treatment, we should bear in mind that the cause has not been determined; that it is usually of a serious nature, and that it is well to give the patient the benefit of doubt with regard to the three causes apparently most apt to be found—tuberculosis, defective metabolism, nephritis.

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ABSTRACT OF DISCUSSION

Dr. W. H. Roberts, Pasadena, Cal.: I am not prepared to discuss the etiology of this class of troubles, but I wish to report two cases, each with a distinct tuberculous history.

Case 1.—Miss J. F. N., aged 64, came under my care Feb. 21, 1902. She had lived in California for several years and had recovered from a pulmonary tuberculosis. Vision O. S. had suddenly been reduced to counting fingers at five feet, and the vitreous was too full of blood to permit of a view of the fundus. Fundus O. D. normal; O. D. V. with correction 6/5. Later when the media of O. S. cleared, an almost complete detachment of the retina was found, and this eye has had little more than light perception since. January 16 of the following year she had hemorrhage in her right eye, mostly in the nerve-fiber layer, but some blood escaped into the vitreous. This was the beginning of a series of small hemorrhages occurring in this eye extending through a period of over seven years. She has had two partial detachments of her retina to the nasal side of the disk, which have readhered. The patient has been under constant observation for over nine years. She has been an ideal patient in every respect, obeying implicitly all orders, and is now in good physical and mental condition.

Case 2.—J. F. B., aged 20, was first seen Sept. 27, 1910. He was in a sanitarium for pulmonary tuberculosis. He had noticed black spots before each eye for some two months. At this time the periphery of each retina showed flame-shaped hemorrhages, mostly about the veins. Dec. 14, 1910, he had two subhyaloid hemorrhages below the macular region of the left eye. His blood-pressure has never been taken, but the coagulometer has shown very slow coagulation; hemoglobin 95 per cent. He was placed on calcium lactate but the hemorrhages persisted in recurring, and the coagulation of his blood continued to be tardy. Then as the hemorrhages seemed to come from the retinal veins, he was given fluid extract of hamamelis with immediate cessation of all hemorrhages up to the present time.

Dr. Adolf Alt, St. Louis: I have had occasion to examine a good many patients with hemorrhage into the vitreous, but only once have I seen an eye in which there was a diagnosis of subhyaloid hemorrhage in the macular region; and since Dr. Woods made the statement that the hemorrhage came from the ciliary veins, in my case it came from a retinal artery. The hemorrhage concerned chiefly the space between the retinal and the hyaloid. However, there was some hemorrhage in the nerve-fiber layer. I think in most cases the hemorrhage comes from the retinal vessels and not from the chorioidal or ciliary vessels. In all the cases I have seen there has been disease of the blood-vessels themselves.

Dr. Melville Black, Denver: Dr. Woods touched on a point that seems to me important concerning these hemorrhages, and the remarks of Dr. Alt suggested a possible explanation. We sometimes have subhyaloid hemorrhages which run into hemorrhagic glaucoma, and I think possibly the most rational explanation of these hemorrhages would be that they come from the ciliary region. I saw a woman about two months ago who had a very large vitreous hemorrhage, so large, as a matter of fact, that no light reflex whatever could be obtained, and it was difficult to say that it did not occupy practically all of the vitreous space. I saw her just before I left for this meeting. She came in with a steamy cornea and a tension by the tonometer of plus 3. She suffered pain and some vomiting and was in great distress. A good many of these cases of vitreous hemorrhage are subhyaloid hemorrhages terminating in hemorrhagic glaucoma, one of the most serious conditions that we have to contend with. I have seen several of these cases and in every one there has been a general autointoxication along the line suggested by Dr. Woods. In this case a very careful laboratory examination was made and it was found that certain excretory products were not being properly eliminated. In view of this fact this woman was placed on a glass of buttermilk every two hours, with a very plain vegetable diet. Nothing is hoped for from that treatment on the offending eye, but what is going to happen to the other eye? Patients should be put in a position in which there is no likelihood of a similar accident happening to it. The low blood-pressures have interested me for a good many years in connection with this question and it is very difficult to say what would be at one time a normal blood-pressure and at another time a low blood-pressure. If in a person with a blood-pressure running 140 it should drop to 100 or 110 it becomes an important matter, because it is a very low blood-pressure for that particular person. The low blood-pressure together with the factors that are back of it may get the patient into trouble. I do not think, however, that we should take the blood-pressure as anything more than an index, or rather a danger signal to the conditions which are influencing the blood-pressure, and we as ophthalmologists are very poorly qualified to go into the necessary laboratory findings to get to the bottom of these troubles. We must have some one to do that in the most scientific and advanced manner possible, and by systematically following up these cases I believe we will have a very decidedly better understanding of the etiology and pathology and treatment of these conditions.

Dr. Edward Jackson, Denver: One way in which low blood-pressure may be a cause of hemorrhage is through thrombosis. A very low blood-pressure has been associated with forms of intraocular hemorrhage and other hemorrhages also, and it has been suggested that, when there is thrombosis in the small veins, hemorrhage follows. While this does not apply to recurrent hemorrhages, it is a possibility that might be borne in mind in any intra-ocular hemorrhage when we see the patient for the first time, for temporary causes may have produced a hemorrhage entirely apart from tuberculosis, syphilis or arteriosclerosis. I have in mind the case of an engineer, a healthy man, who came to me with a very clear explanation in his own mind of his intra-ocular hemorrhage. He said he had always been particularly subject to the influence of tobacco. He was one evening in a small room which got very thick with smoke, and he became markedly nauseated and had to get out. He did not vomit. There was no straining. After going out into the street, when he saw the street light, he saw a little drop coming down in front of his eye and the next day presented himself with a very typical subhyaloid hemorrhage in the macular region. Absorption was complete and vision was restored to normal, but he was very clear in his explanation, and I never could find any more probable explanation of that hemorrhage than that it was the temporary influence of the nausea producing the hemorrhage from a retinal vessel. I cannot conceive of such hemorrhages, which are sharply outlined in the retina, as having come from the advanced ciliary vessels.

Dr. William F. Mittendorf, New York: The most serious cases are those in which the entire vitreous chamber is filled with blood. The vision, of course, is completely obscured. We cannot see any of the details of the fundus. I should like to mention here that one of the best remedies in my hands has been pilocarpin in very small doses, continued, in combination with massage. I have cleared up a good many cases by this means. Unfortunately in many of them the destruction of the vitreous humor and the interior of the eye is so complete that they resist all treatment. Fortunately, however, in the great majority of cases it is only one eye. The good eye does not necessarily follow the same course. I have observed cases of this kind for years in which one eye only suffered.

Dr. Carl S. G. Nagel, San Francisco: I should like to ask the essayist whether he has tried in these cases fibrolysin-thiosinamin. I know it is a drug somewhat discredited, but recently there has been published in the *Zeitschrift für Augenheilkunde* an article reporting results which were decidedly striking. Apart from that the doctor has been quoting a case of my own in the literature, and I should like to add with regard to subhyaloid hemorrhage and refer to a few points I made in a report in Wurdemann's *Ophthalmology* a few months ago. The wife of a physician suddenly lost her vision in one eye. An oculist was consulted and gave a bad prognosis on account of the hemorrhage in the macular region. This was a typical case of subhyaloid hemorrhage with a typical scotoma of umbrella shape. The patient recovered, as these patients generally do. I can remember four or five cases of that sort that I saw while in Uhthoff's service. There was a distinct history of articular rheumatism which had led to ankylosis of one elbow. Without throwing much light on it, the most interesting point seemed to be that this had occurred in one eye during the beginning of the menstrual period, and with the next menstrual period a very slight hemorrhage occurred in the other eye, the first eye having almost completely recovered in the meantime. Now in the second eye it would have been impossible to make out from the ophthalmoscopic picture in what layer the hemorrhage was, although the woman had a slight, indistinct scotoma; but having the experience with the other eye she could have observed it perhaps more distinctly than otherwise. But that led me to believe that these hemorrhages do occur sometimes in very slight form as in this case, and are overlooked or not rightly interpreted. I thought it might be possibly functional from the form of the scotoma, which, of course, will be inverted, occurring behind the nodal point. In this case the woman was intelligent. It struck me that it might be possible to use this feature of the inverted figure of the scotoma to the hemmorrhage to make out the diagnosis.

Dr. H. W. Woodruff, Joliet, Ill.: I wish to ask Dr. Woods if he has ever found hemorrhages in other portions of the body associated with these subhyaloid and vitreous hemorrhages? It has always seemed strange to me that subconjunctival hemorrhages are so exceedingly common that we almost never find any symptoms of general disturbances, and are in the habit of looking on them as of very trivial importance.

People come to us with a history of waking in the morning and discovering this appearance in the eye. I once had a case of subconjunctival hemorrhage in a young girl without any history of cough or traumatism of any kind. Associated with it was a small hemorrhage in the retina. She recovered without any subjective disturbance of any kind. Perhaps Dr. Woods has had experience in similar cases.

Dr. C. D. Wescott, Chicago: I have seen a number of cases such as Dr. Woods has described, and in my experience the patients past middle life who have these hemorrhages have arteriosclerosis, and the hemorrhages are easily attributed thereto.

In the younger patients it has been practically impossible for me or the internist to find out why they occur. Auto-intoxication, I believe, is present in many of these cases, but we do not know how auto-intoxication may cause retinal hemorrhage. Dr. Woodruff's point in regard to hemorrhages in other parts of the body is important, and I feel that we should warn these patients that a general examination is imperative. I think this paper points very strongly to our duty in all cases in which we find any alteration in the retinal circulation, to have the blood-pressure taken, and if it is found high to have a general examination; that the patient may have his life so regulated that he may not have subsequent hemorrhages into the retina, or, perhaps, apoplexy, which has followed so many of these cases of hemorrhage in the eye.

Dr. F. T. Rogers, Providence, R. I.: I wish to call attention to the difference between an exciting and a predisposing cause. I have seen two cases recently in which the predisposing cause was unknown, but the exciting cause was evident. One was the case of a lighthouse keeper who has had three attacks in the last year, and each one has come on within a few minutes of lighting the lamp. In another case the man was an electric light tester. It seemed to me that the exciting cause was the sudden impress of an exceedingly bright light.

Dr. John E. Weeks, New York: We have a class of cases of hemorrhage into the vitreous occurring in young individuals that is unsatisfactory as far as etiology is concerned. These cases may affect one or both eyes. The hemorrhages are recurrent. I have seen two such cases in my practice. One I referred to in writing to Dr. Wood. In this case both eyes were lost in spite of everything that we could do so far as therapeutic measures were concerned. It was necessary to remove one eye because of secondary glaucoma. The patient was a girl 17 to 19 years of age, apparently in good health, except, perhaps, that she was somewhat anemic. The hemorrhages began in the right eye. She was under my observation at least two years, and the hemorrhages were recurrent, large masses of blood appearing in the vitreous from time to time. The eye that was enucleated I removed myself. I examined it microscopically and found the remains of hemorrhage into the vitreous in the form of fibrinous masses which had become somewhat changed by age. I have never found any satisfactory explanation of the etiology in these cases occurring in young individuals. Of course those occurring from disease of the blood-vessels as in arteriosclerosis or in syphilitic affections, we know perfectly well about. They precede apoplexy, as Dr. Wescott has said, in not a few cases in apoplexy; but, regarding the cases that occur in the young we would like to have some further information.

Dr. A. E. Bulson, Jr., Fort Wayne: Dr. Woods undertook the study of this subject largely through suggestions from me. I have had during the past sixteen or eighteen years a number of cases of subhyaloid hemorrhage in the young, and they have been extremely puzzling to me and a source of a great deal of annoyance and uncertainty as to the outcome. The point which is of most importance is the etiology. When we can exclude kidney disease, arteriosclerosis, tuberculosis, syphilis and rheumatism we have very little left on which to found a diagnosis, and particularly the etiology. Some of the patients under my care have been where I could watch them for a period of years. Most of them have been in young farmers, and strange as it may seem, most of them have been in males. One man in particular was in the hospital for several weeks. During that time he was under constant observation by several of my confrères, including a very competent pathologist and bacteriologist and an internal medicine man. The man was given a tuberculin test, he had the Noguchi test, his blood was repeatedly and thoroughly examined, and we exhausted our means of arriving at a diagnosis. He was given potassium iodid internally, pilocarpin, salts, dionin both subconjunctivally and by local application, laxatives and cathartics, limited diet, and his blood-pressure was taken without discovering any blood-pressure which would lead us to suspect that increased pressure was responsible for the hemorrhage. During the time this man was under treatment and in the hospital he would have hemorrhages in the middle of the night while asleep; he would have them before breakfast; he had at least eight or ten in the hospital while under treatment, and it became a perplexing problem. The man returned home. He was carefully instructed concerning his diet and his duties; advised not to engage in any very laborious occupation. He soon discovered that it did not make any difference whether he pitched hay or rested under a shade tree, he had the hemorrhages just the same. The strange feature about this case was that when it cleared up he had 20/20 vision and there was not a single thing in that retina. Now in that case of retinal hemorrhage it seems to me there would be some evidence of it, and when we take into consideration that the fundus would be absolutely black and that we could not see the faintest red reflex for a period of two to three or four or six weeks, it certainly is strange that eventually it would clear up and he would have normal vision. This would occur again and again. This man has written me repeatedly. I intended to forward several of his letters to Dr. Woods. The letter would go something like this: "I haven't had a hemorrhage for three weeks. I can see to read and can see perfectly for distance. I hope it will continue, but the experience of the past would seem to indicate that I cannot hope for this vision very long." Perhaps in the course of a week I would get another letter which said: "Well, I have had another hemorrhage and I can't see anything." I exhausted all my resources and did not know what to do any more. It was with a view to determine the etiology that I asked Dr. Woods to take up the study. These cases were examined by me and my confrères, and we called to our aid competent internists, pathologists, etc. The only thing that I could find was a persistent, high indicanuria. I have not given the tuberculin test in all of them. I suspicion that possibly tuberculosis may play some part. The Noguchi has been given in several of them notwithstanding there was nothing to indicate that there was anything specific. In each instance it has been negative. To me these cases are a source of great interest. We did not try the injection of normal serum in that case.

Dr. William Zentmayer, Philadelphia: It seems to me not enough emphasis has been laid on the fact that there are two distinct varieties of cases here dealt with. It always appeared to me that recurrent hemorrhages and subhyaloid hemorrhages are different things. My experience is that the recurrent hemorrhages occur in young individuals, sometimes in one eye, more frequently in both, and that they lead to a peculiar proliferative inflammation which gives a bewildering ophthalmoscopic picture. We cannot with certainty locate the disk and see several layers of white, interlacing sheets. The subhyaloid hemorrhages occur in older persons; there is usually one, and in one eye. In the first class of cases the hemorrhage seems to come from the ciliary body. In the second class they most assuredly come from the retina. That has been proved. I cannot remember the authority; but in every case of the second variety the hemorrhage was traced to the retinal vessels. It came from any layer; not always just the anterior layer. It seems to me, therefore, that we have here to do with two distinct classes of cases.

Dr. Edgar S. Thomson, New York: The late Dr, C. J. Kipp, who was a careful and accurate observer, told me he had seen one of these hemorrhages occur. It was in a patient over 50, and there were a few retinal hemorrhages. Dr. Kipp was examining him with the ophthalmoscope when he saw a retinal vessel burst like a garden hose, and the interior of the vitreous was flooded with blood immediately.

Dr. William F. Mittendorf, New York: I should like to ask Dr. Woods whether or not he has thought of the hemorrhagic diathesis, in cases in which the etiology is obscure?

Dr. Hiram Woods, Baltimore: Dr. Roberts speaks of detached retina. A detached retina is a result in quite a number of these cases that have been reported in the literature, and retinitis proliferans is another common result; the fibrosing result described by Dr. Zentmayer also. The detached retina brings up the source of the hemorrhage. So far as I can find out there is no very definite proof one way or the other as to just where it comes from. Fuchs in his textbook seems to lean toward the retinal vessels as the source of the hemorrhage. On the other hand other authorities take a different view. I thought I quoted Dr. Weeks correctly about the uveal origin, and de Schweinitz, Berry and others put the hemorrhage in the uveal tract. The fact that retinal detachment follows would rather look like the hemorrhage came from the surface beneath that. Now one of the cases I allude to here occurred in a woman who was perfectly healthy, 29 years old; but it absorbed. Dr. Mittendorf spoke about diaphoresis. She was given diaphoretics. The blood-pressure was 125 and nothing was found in that line. Under the diaphoresis and purgations a second hemorrhage occurred while the patient was in bed, as in Dr. Bulson's case. Later on she was given over to one of the best internists. He said to me, "That woman has bad teeth, and she is getting infection from some source. The teeth are all I can find and you had better have them attended to." There is no doubt that after a disgusting pyorrhea had been cured by the extraction of some necrotic teeth improvement went on steadily. I do not give that as the cause; what I am giving is the associated facts. This woman while in bed under diaphoretic treatment had three hemorrhages and when we discovered and treated the pyorrhea there was a steady improvement to normal vision. Whether that was the cause the future only can determine. Dr. Mittendorf speaks of one eye being usually affected. I think that is generally the case when we have any serious trouble of this kind. It is certainly the case with relapsing exudative choroiditis. A second attack will come in the same eye as a rule, and not in the other eye.

I want to express my approval of the view some have taken of these subconjunctival hemorrhages. I have in several cases found a little peripheral exudate that Dr. Woodruff spoke of; but de Schweinitz found that out some years ago. The necessity of recognizing subconjunctival hemorrhage is a matter of importance. Dr. Mittendorf's second question, as to the hemorrhagic diathesis may be answered by saying that I have not seen hemorrhages in other parts of the body; there was no leukemia or defective hemoglobin. They occurred in young people apparently in ideal health, except for the indicanuria and the pyorrhea, and, in one case, the positive tuberculin test. Dr. Rogers speaks of the predisposing and the exciting causes. In Dr. Thomson's case a young athlete who had been doing all kinds of stunts for years, once in a pole-vault had a subhyaloid hemorrhage. What made him have the hemorrhage that time? It cleared up and he had no more. Some exciting cause does come in, but I am unable to tell what it is. I am only trying to find out the concomitant conditions that might act as causes, and I think the persistent turning up of tuberculosis and indicanuria, etc., we will find are possible causes in young persons. Of course, as Dr. Weeks says, we have got to differentiate these from the cases in older people with arteriosclerosis. Dr. Zentmayer thinks the subhyaloid hemorrhages do not recur. That has not been my experience. I have seen them recur in young persons. I think the vitreous hemorrhages are more common, but in this particular case of the young woman of 29 with the pyorrhea she had two recurrences of subhyaloid hemorrhage and only one definite large vitreous hemorrhage.

AN ESOPHAGEAL DILATOR AND AN ESOPHAGEAL SOUND

WILLIAM LERCHE, M.D.
ST. PAUL, MINN.

In a paper previously published,[1] I described a cutting operation for the cure of strictures of the esophagus, performed through the esophagoscope.

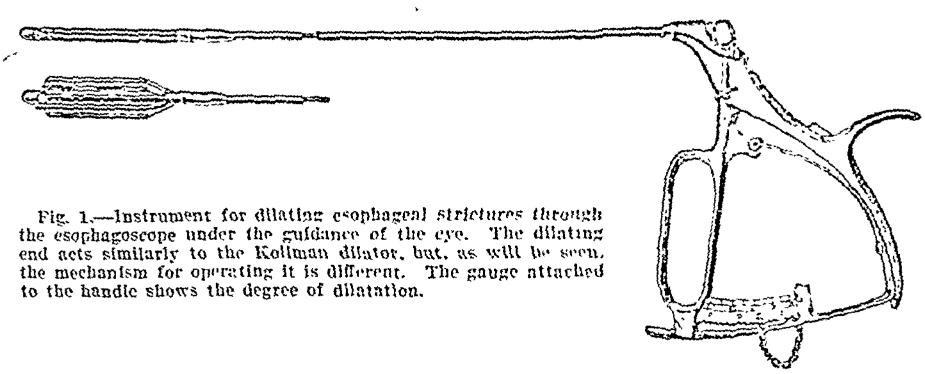

Fig. 1.—Instrument for dilating esophageal strictures *through* the esophagoscope under the guidance of the eye. The dilating end acts similarly to the Kollman dilator, but, as will be seen, the mechanism for operating it is different. The gauge attached to the handle shows the degree of dilatation.

Figure 1 shows an instrument which I have devised for the purpose of dilating the stricture *through* the esophagoscope, under the guidance of the eye, in the same sitting after the incisions have been made.

The circumference of the dilator when closed corresponds to 16 of the French scale, and its maximum expansion is 50 French, as indicated by the scale on the handle. A metal peg is inserted into holes on the scale-plate to limit the expansion to the extent desired. The dilator is used like a glove-stretcher to dilate the stricture gently by alternately expanding and relaxing the instrument, and changing its position now and then by rotation. By this method the stricture can be dilated rapidly in one sitting without removing the esophagoscope.

The esophageal sound (Fig. 2) consists of a flexible shaft of spiral steel wire which is covered by a rubber tube. To both ends of this shaft can be screwed olives of different sizes. The shaft and the olives are perforated throughout in the long diameter in order that the sound may be threaded on to a guide if desired. Figure 2 also shows a steel wire with an eye in one end used for pulling a silk thread guide through the sound. The cut shows the wire with the silk thread guide after it has been pulled through. The steel wire, when inserted into the sound, also serves the purpose of making the instrument more rigid if required.

I have used this sound for several years, after first having tried the sound described by Jamison in 1825, and which of late has again come into vogue. In the latter the shaft is flexible at the end near the olive, but the olive only is perforated for the guide, and this at an angle to its long axis. I found that if a piano wire or a filiform whalebone bougie was used for a guide, this would easily become jammed in the olive, while if the guide runs through the whole length of the sound this difficulty is obviated.

412 Lowry Annex.

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[1] Surg., Gynec. and Obst., October, 1910.

A METHOD OF FIXATION OF VEIN TO FACILITATE THE INTRODUCTION OF A NEEDLE FOR INTRAVENOUS INJECTIONS

J. J. WATSON, M.D.
COLUMBIA, S. C.

The difficulty, and sometimes impossibility, of introducing a suitable needle into a vein has been encountered by every one who has many times made the attempt, and the necessity of exposing the vein became unavoidable.

I have used the procedure described below a sufficient number of times to test its efficacy fully, seldom having failed to enter the vein on the first attempt.

TECHNIC

The arm is corded above the elbow if the vein is small or the subject fat, thereby rendering the vein prominent. The vein is then anchored by a medium-sized sewing-needle passed through the skin and upper quadrant of the vein at right angles to its axis; the hemostat or needle-holder used to insert the needle is taken off and clamped on the *point side of the needle* about one-fourth inch from the vein (Fig. 1).

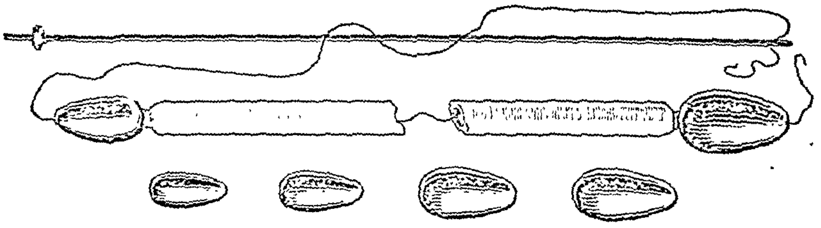


Fig. 2.—Esophageal sound, consisting of a flexible shaft of spiral steel wire covered by a rubber tube. Olives of different sizes may be screwed to each end; shaft and olives are perforated longitudinally so that the sound may be threaded on a guide if desired. A steel wire with an eye in one end, which is also shown, is used for pulling a silk thread guide through the sound. The wire may also be used for making the instrument more rigid.

The hemostat is gently lifted with the left hand, if the operator is right-handed, the upper wall of the vein being thereby elevated with the skin. The hollow needle is introduced into the vein almost parallel with the axis, with the right hand (Fig. 2).

Figure 3 shows a slightly exaggerated result of the ordinary effort of introducing the needle into the vein.

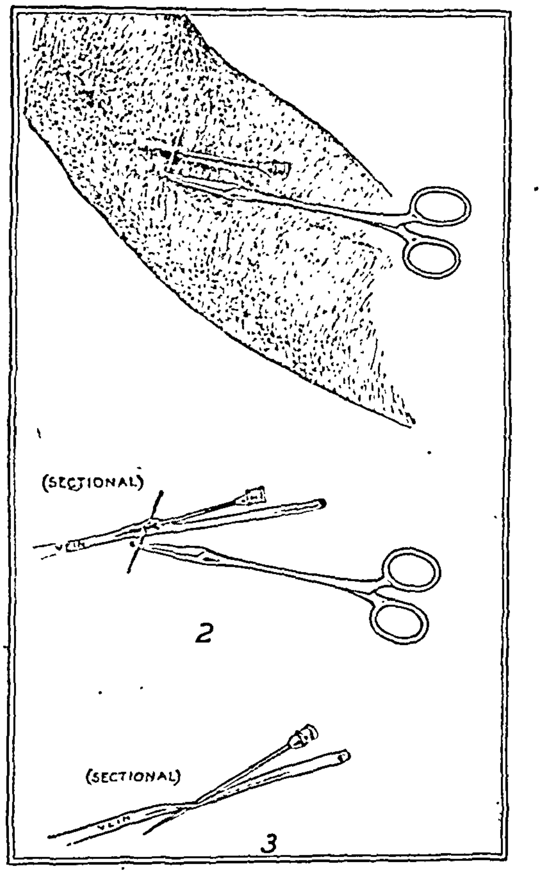
By my method no fluid will go into the tissues if the flow from the needle is stopped (after the air is expelled) just as it is plunged into the vein. There will be no bleeding if a piece of sterile gauze is pressed over the vein and held there for half a minute as the needle is withdrawn. Cover the three small punctures with collodion and the procedure is completed.

One is surprised at the comparative ease of execution of this procedure and the absence of discomfort to the patient. I have had patients use a fan with the arm five minutes after the needle was removed and they subsequently experienced no inconvenience.

If it is desired to abstract blood, cord the arm and insert the needle, allow as much blood to flow as is desired, and then remove the cord, needles, etc.

I am now using this method for obtaining blood for the Wassermann reaction. I wish to acknowledge my indebtedness to Mr. Brantley Smith of the staff of the *Columbia State* for the drawings accompanying this article.

1312 Blanding Street.



Figs. 1, 2 and 3.—No. 1 shows the method of transfixing and raising the vein with a sewing-needle and holding it in the elevated position by means of a hemostat. The infusion needle is shown inserted into the vein beneath the transfixing needle. No. 2 shows more in detail the method of fixation and the insertion of the needle. No. 3 shows what frequently happens in attempting to insert the transfusion needle without first fixing the vein.

SPONTANEOUS RUPTURE OF THE SUPERIOR VENA CAVA WITHIN THE PERICARDIUM

E. E. SHERRARD, M.D., and C. A. SMALLEY, M.D.
LOS ANGELES, CAL.

History.—The patient, a woman aged 53 was first seen on the evening of June 7, 1911. She had been combing her hair, preparatory to going out, when she suddenly became weak and faint, so much so that she went to bed and called a physician. When seen at 7:30 p. m. she was in a state of profound collapse; conscious, with face pale, and covered with cold perspiration. Her extremities were cold, and her legs had lost sensation and the power of motion; she could move her arms. Pupils responded to light and accommodation and were equal in size. The patient suffered from air hunger, and felt a pain in the left axillary line on a level with the nipple. Her temperature was 97.5; pulse 45, weak and thready. Heat was applied and strychnin and nitroglycerin administered.

At 12 o'clock, the same night, the extremities were warmer. The patient could move her right leg, and color had returned to her lips and ears. She still complained of air hunger. Pulse was 60, slightly stronger but intermittent.

June 8, 9 a. m., patient had slept quietly after 1/8 grain morphin hypodermically. Color was still improved; temperature was 98; pulse was 85, irregular in volume and rhythm. The patient could move both legs, but she still had pain in precordial region extending to left midaxillary line. She also suffered from flatulency. Calomel was prescribed and strychnin continued. During the day her bowels moved and urine was voided, dark and diminished in quantity. At 8:30 p. m. the patient had taken nourishment. Pain was felt in same region but not severe. Pulse was 90, irregular and of fair volume.

June 9, 9 a. m., the patient had passed a fair night; general appearance was improved; the temperature was 98; pulse was 90 and irregular. Respiration was 20; the patient had a mild but continuous pain.

At 9:45 a. m. she suddenly expired, while the nurse was bathing her. The patient was the mother of three children, had not consulted a physician in twenty years, and up to the time she was stricken she had supposed her physical condition to be normal.

Necropsy.—The patient was a woman apparently sixty years of age, fairly well nourished, abdomen distended, and rigor mortis present. There was some free fluid in the abdominal cavity, and marked ptosis of the stomach and the transverse colon. The liver was much enlarged, and ptosis was such that the right lobe extended well below the crest of the ilium. Blood oozed from the cut sections. Veins of the portal system could be easily traced by their intense congestion. Enlargement of spleen was not pronounced. Kidney capsules were easily stripped, and there were no disease changes apparent. Appendix, ovaries, tubes and uterus were normally atrophied. Nothing abnormal was found in the lungs or pleural cavity. The pericardium, on careful opening, was found filled with blood and clots. The heart, *in situ*, appeared normal in size. The superior vena cava was ruptured, the opening being nearly two inches in length and in the wall farthest from the aorta. The left auricle and ventricle were normal in size, with no incompetency of mitral or semilunar valves. The tricuspid valves were normal, but were incompetent from dilatation of right auriculo-ventricular ring. No change in size of right auricle and ventricle. The aorta and pulmonary arteries were sclerosed but not markedly atheromatous.

We could discover no cause for this sudden rupture, apart from the conditions already mentioned.

Probably the sclerosis in the pulmonary arteries was contributory, in that the lack of elasticity was enough to cause a retardation of the blood-current through the right heart; and the increased effort was sufficient to produce a dilatation of the right auriculoventricular ring with a consequent incompetency of the tricuspid valves. This, in turn, permitted congestion of the liver and the veins of the portal system; and after the inferior vena cava became engorged, the back pressure was too great for the superior vena cava and it gave away. The whole process leading up to the final disaster could have been only of recent origin, or certainly the woman would have had symptoms continued over a longer period of time; and the left heart would have shown more signs of hypertrophy. It is not unreasonable to suppose that the whole process apart from the sclerotic changes in the aorta and the pulmonary arteries, was limited to the forty hours' acute illness of the patient. Spontaneous rupture of the superior vena cava is so rare as to be almost unique.

After some research, we were unable to find but one reported case of spontaneous rupture of the vena cava within the pericardium, and we found no mention whatever of such a condition in the works on pathology consulted.

405 South Hill Street.

OBSERVATIONS ON TUBERCULOSIS IN THE SOUTHWEST*

E. S. BULLOCK, M.D.
IN COLLABORATION WITH
LeRoy S. Peters, M.D.
SILVER CITY, N. M.

In the fifteen years during which I may say I have lived constantly in an atmosphere of tuberculosis, and during which over two thousand cases have passed through my hands, I have reached certain conclusions as to the fundamental principles of treatment in this disease which I trust will prove of value. On the other hand, realizing as I do, that to be confined in a bit of a valley in the Rockies for many years with a colony of consumptives is not conducive to breadth of vision, it is my hope that in the discussion of my paper I may be able to correct any of my opinions which are wrong.

We must certainly grant that at this stage in the development of knowledge of tuberculosis we know exceedingly little about the disease. In fact, Koch's epochal elucidation of the etiology is a striking landmark along a way strewn with generalizations, theories, and loosely-applied scientific terms. Our forefathers in medicine, with their bleedings and sinapisms, were much more certain of their ground than we, who with each new discovery stand aghast at the realm of the unknown that stretches before us. A superficial observer, like George Bernard Shaw, dealing in half truths, as is his wont, overlooking either purposely or unconsciously our accomplishments in the alleviation of human distress, feels perfectly satisfied when he has designated us as conspirators and charlatans. Nevertheless, Shaw is largely justified in his criticism of our prevailing professional fault—treating theories as though they were demonstrations—and, as well, in his objection to our common, loose application of terms. With this criticism n mind I propose to abstain from everything which, if t is not empiric knowledge, may not at least be subtantiated by anyone so minded.

I myself know of nothing so efficient as a destroyer of otism as a close acquaintance with tuberculosis. When, year after year, human beings hold out their hands for help which cannot be given, when seemingly some of those most worthy of life die in spite of everything, and others recover apparently without much effort, it certainly not only brings home a keen appreciation of personal inefficiency, but as well a strong desire to confine oneself to a registration of facts and only facts in the discussion of this disease, permitting all theories to go by the board.

CLIMATE

I recovered from tuberculosis in the Rockies. My cure, after the lapse of years, may be said to be a real one, and not merely an arrest or relative recovery. Being human, it is natural to suppose that I started my work with a preconceived idea of the value of high, dry climates in the treatment of tuberculosis. When one recovers from so serious a disease as tuberculosis is ikely to be, or, I may say, always is, it is bound to leave n almost indelible mental impression, with a tremenous bias in favor of the conditions under which one happens to recover. I can maintain, however, that I have tried conscientiously to remove my personal equation, as it were, from the consideration of the actual facts on which a final estimate of the value of high climates should be based. It is fortunate that at this time the evidence is practically all in, and has apparently crystallized in an opinion which to a very great extent, has become general throughout our profession and the people at large. The limited anti-climate school may spend much time in proclaiming that no benefit can be derived from climatic treatment that cannot be obtained in the home environment, but the reply is that of Dr. Alfred Stengel, who states that if he contracts tuberculosis he is going West, and that, I am sure, will be the answer of medical men generally, if under such conditions they can get or have the means to go there.

A commonly held opinion such as this is pretty likely to be true, at least pragmatically so, in the sense that the late Prof. William James would have employed that expression. In the future we may have something better to offer consumptives than high climates, but for the present at least we cannot do better than accept what seemed to be the consensus of opinion at the last International Congress on Tuberculosis, namely, that high climates unquestionably afford the best single weapon against the disease.

It is in anyone's power to prove this general statement of the value of high climates. As you know, the classification recommended by the National Society for the Study and Prevention of Tuberculosis has been quite generally adopted. In fact, in both Europe and America much the same scheme of classification is employed in sanatoria. This furnishes at least a relatively useful basis of comparison of the results achieved in the sanatorium treatment of tuberculosis, in spite of manifest shortcomings inherently dependent on our lack of knowledge of what really dictates differences in type in clinical tuberculosis. My own results, which correspond closely with those obtained by Dr. S. G. Bonney, of Denver, as recently communicated to me, and which, therefore, may be taken as a type of about what it is possible to accomplish in high climates, are briefly as follows: In terms of apparent recovery or cure the incipients furnish 83 per cent., the advanced cases 50 per cent., and the far-advanced cases 13 per cent. These results are achieved in an average sanatorium residence of a little more than nine months, and could undoubtedly be improved if we were granted a perfect control over our patients, which in the light of the limitations placed on remaining under treatment a sufficient length of time by both lack of money and human weakness, it is impossible to obtain. As all institutions, however, struggle against much the same conditions and disadvantages in the respect named, comparisons between them will be none the less fair.

Taking these statistics as representative of about what we can expect to accomplish in the sanatorium management of consumptives with our present armamentarium, and using them as a standard of comparison, what can be discovered? Beginning with institutions located at sea-level in this country and in Europe the results will be found to improve with every thousand feet of altitude obtained up to six or seven thousand feet, the latter figure being the extreme limit of sanatorium location. While a personal equation doubtless enters into any scheme of classification yet devised and while there are considerable differences between institutions as to type of human being received, yet as a deduction from the available statistical evidence the conclusion follows that the best results are obtained in high altitudes.

At the meeting of the International Conference on Tuberculosis held at Philadelphia in 1908, it was my privilege to hear Dr. Williams, of London, speak on this subject. His was the paper of the evening, and in the audience were gathered most of the men prominent in this country as opponents of climatic treatment. One cannot forget the astonishment with which they received Professor Williams' paper, in which he advanced his carefully kept case-records to show that in a lifetime largely devoted to the treatment of consumption the best results had been obtained in those instances in which the patient had gone to the Alps. Among European phthisiotherapists it is common practice to give the patient a chance in the Alps if it is practicable to do so. And, as Dr. Williams has said, how much easier and more pleasant high altitude treatment may be in a country where the vast interior plateau is one grand sanatorium with every possible variety of climate as regards temperature exemplified! I am no special pleader for any particular locality, but wish to embrace in my recommendation all that high, dry portion of the western United States which lies between the northern boundary of Colorado and the Mexican line. A curious obsession is presented by the average climatologist who imagines that the particular spot where he lives and works must necessarily have just a little the better of any other place.

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

It is certainly most important that a locality be chosen which presents a good all-year-round climate, for it cannot but be most disadvantageous to a consumptive who is doing well, and accustomed to his surroundings and doctor, to be forced on account of a hot and prostrating summer to change his location.

It has been advanced as an argument against climate that at one time or another all sorts of places from Florida to California had been advocated as resorts for consumptives, and that, after a time, each in turn had given way to the next. This is not an argument for or against climate, but the strongest possible evidence in favor of a change in environment, which, as we all know, is efficient for a time, at least, to a remarkable degree, in tuberculosis. In fact, there is no known metabolic stimulant the equal of simple change in scene and surroundings.

The real work, the most important work of the Southwest, is to-day done by consumptives who are cured or whose disease is arrested, and this in the face of extensive and often vast pulmonary destruction. We, who live there, have no difficulty in appreciating what these people mean to the country, and what the country means to them. If others could only be brought to this appreciation there would be no agitation against climatic treatment. I never had a phthisiotherapist visit my institution and go over the cases who was not astonished at the accomplishments of high-altitude treatment.

Utilizing, therefore, the gathered experience of centuries, from the Father of Medicine to our own time, the conclusion is justifiable that high altitude climates are most likely to prove permanently helpful to consumptives. This is the best sort of empiric knowledge, and I do not think that it should require any further elaboration at my hands or those of any other man.

The application of this knowledge for the benefit of the unfortunate individual presenting himself for counsel as to what to do and where to go, is, I regret to say, a very difficult matter, the trouble being that not over one consumptive in a hundred can afford *to go away for* his health. This, I maintain, comprises the only argument against climate worth listening to, and, we must all agree, it is a very serious objection, and compels the use of our most valuable therapeutic measure in but a very limited number of cases. Dr. J. Solis-Cohen, of Philadelphia, who has been advising consumptives for fifty years, employs a method of dealing with this problem which I believe is the only one fair to patient, home physician, locality chosen as the field of battle, as well as the physician or institution to which the patient may be sent. On confirmation of the diagnosis he states the case to the patient in approximately these words: "What I advise you to do will depend on your financial resources. In plain language, can you command twelve hundred dollars during the coming year without impoverishing either yourself or your family?" If the reply is "no," then the project of going to a distant climate is not mentioned, and if, on the contrary it is "yes," then he recommends the Rocky Mountain region, and specifically refers his patient to a physician known and trusted by him or to an institution standing equally high in his estimation. By this method the patient has his best chance, if able to afford it, and if not, the lure of a better chance than he would have at home is not held out to him. He is not sent where he can spend but a few months, a wholly inadequate period for testing out a case of tuberculosis, and then compelled, sorely *disappointed, to return home;* he is not sent where his family will be placed in jeopardy by the expense of his trip; he is not sent if it is probable that he will be still unable to work at the end of a year, and become penniless in a strange land. If it could only be appreciated how often the indigent consumptive comes to the Southwest—and indeed, a sadder figure can hardly be conceived—it seems certain that very great care would be taken in preparing him for his long sojourn in a distant region, to face undismayed a prospect of at least twelve months away from home. All possible good obtainable from treatment in a high altitude will likely be more than counterbalanced by financial worry. One hundred dollars per month is none too much for the requirements of an invalid in a strange land. It seems certain to me that three out of every five patients sent west are very *inadequately supplied with money, or perhaps it should be said, who go west, for surely our profession is not* responsible for all of them.

Finally, by this plan the home doctor is fair to the physician or institution to which the patient is referred. He has assured, as far as he is able, time enough to try out the case. This is a very important matter indeed. Certainly we do not expect to obtain a result in an average case of tuberculosis in a period of four or six months in any climate. There is no disease in which there is a prospect of recovery in which time is a more important element. After years of this work I feel perfectly sure of my ground in stating that twelve months is a good average for an incipient case; two years in an advanced case, and three in far-advanced cases, and in such, if relative recovery occurs, probably *the rest of* life in the high altitude zone.

In the West years ago we had *many more incipient* cases than we now have; then the home treatment fad came in, and now, let me say as emphatically as I am able, that our successes are largely derived from home-treatment failures. We get them when the patient, the home doctor or the family have become scared. Over 60 per cent. of the patients treated in my institution are in the far-advanced class. If able to come to us when far advanced, surely they might have been sent in the beginning, when the prospect of cure was 83 per cent., as well as in a stage when the probability of clinical cure is reduced to 13 per cent. I was formerly very proud of the number of apparent recoveries I could turn out, but latterly from the high percentage of advanced and far-advanced cases sent to me, I have been forced from the exigencies of the situation to turn my attention to the conservation of human life, and we high altitude workers are very thankful that there is a place to which this class of invalids can turn hopefully, and where, let me emphasize, they are welcome. I have no hesitation in saying that if once more a consumptive as I was fifteen years ago, I would rather take my chance in the Rocky Mountains with a good home and three good meals a day than in the best equipped, most scientifically conducted institution in the world at sea-level.

Why high altitude climates are helpful in tuberculosis we do not know. Webb, of Colorado Springs, has done much work to show that the large mononuclear leukocytes are increased in a high altitude, and ascribes value to this phenomenon. Dr. L. S. Peters, my associate, has shown that an increase in blood-pressure follows continued residence in such a place. Still others have maintained an increase in the erythrocyte content of the blood, as well as changes in conformation of the chest, respiratory changes, etc. Although suggestive, none of these theories singly or combined tell us definitely why more consumptives recover in a high altitude. Instead of indulging in loose attempts at scientific explanation, we may better say that a climate which tends to keep healthy people healthy, and which furnishes a very low death-rate, is seemingly a good place for consumptives to resort to and receive treatment. And now, since we have found that exposure to all the elements, no matter how unpleasant it may be, is not necessarily a part of fresh-air treatment, it is infinitely more agreeable to the patient to take the cure where the temperature does not drop to 20 or 30 degrees below zero in winter, or where he must endure a summer of prostrating humidity.

There is no known means of saying beforehand that in any given case the patient will or will not be benefited by residence in a high, dry climate. I know of no special type of tuberculosis in which high-altitude treatment is contra-indicated *per se*. Certainly no one should be sent, even if able to afford the change, in whom the mental attitude is positively against going away. I have seen each and every variety of consumptive recover, and, as well, I have seen failure in each and every class. I have a profound conviction, however, based on the fact that in every instance in which a patient whose case was progressive went home of his own accord, or changed to a low climate of his own volition, as well as those advised to go, he is either dead or will be dead in a short time; that if recovery is impossible under proper conditions in a high climate, for all practical purposes it cannot occur anywhere. I recognize but three indications for sending a patient to a lower altitude, namely, cyanosis, which is chronic and independent of cold, a high grade of emphysema causing life in a high altitude to be intolerable, and broken compensation in heart lesions. In hopelessly far-advanced fever cases the patient will always be more comfortable in a low altitude, and should never have been sent to a high or distant climate in the first place.

The sanatorium owes its usefulness in the scheme of combating tuberculosis to a great many factors, principal among which is that it offers facilities for the treatment of comparatively large numbers of a class of invalids not desired anywhere else. Especially is this so of the unfortunates with the marks of the disease on their persons. All over Europe and America tremendous pressure is now brought on consumptives to submit to institutional treatment. Though to an extent this is the outgrowth of modern phthisiophobia it is the best possible thing for the consumptive. It places him at once under a scientific, or rather, let us be honest and say, a pseudoscientific régime, where everything that can be done will be done, and not much done that ought not to be done; in a place where he is wanted for his own sake, among others who, similarly afflicted, are congenial; where the atmosphere is impregnated with the spirit of getting well; where he receives an education in tuberculosis of value, not only to himself, but to others; where it is possible for him to see his physician when he needs him, and not be wasting precious time in some doctor's office awaiting his turn; where, if necessary, his throat may be treated without his going miles for that inefficient two or three times a week application; where he can be fed what he requires with the least effort on his part; where if he receives tuberculin its effects may be carefully observed; and last, and, I am tempted to say, most important of all, where he can be in daily touch with a doctor who loves his work and his people, and who, the patient feels, can do as much for him as any other man, and who, he also appreciates, will be absolutely fair with him, who will not feed him on false hope, but who will be physician, brother, and, in fact, a whole family to him. Sanatorium physicians who can inspire and maintain the spirit of getting well, and who realize that sometimes there is nothing between the patient and death but the right word at the right time, are born, not made, and strange to say, that they may have the proper point of view as well as patient sympathy, it is almost essential that they should have had the disease in their own persons. For one man to do the work the sanatorium physician often does, would be impossible if it were not for the fact that his patients are conveniently located in one place.

These, I think, are the reasons for the existence of the tuberculosis sanatorium as we know it to-day, and all will agree, I believe, that they are sufficiently important to justify our whole-hearted support of the sanatorium movement in this country.

The peculiarly personal relation of the sanatorium physician to his work is one reason why such institutions should be kept relatively small and well within the range of what one man can do well. We are all glad to see the fruition of the movement for the establishment of state institutions for tuberculosis, but, it seems to me, it would have been much better to establish several small ones in each state than one great one. Evolution will, I have no doubt, bring this about, but at a great expenditure of time, effort and money.

TUBERCULIN

I approach the subject of tuberculin with much hesitation; for so little is known about it. You will remember, I have no doubt, Trudeau's conservative statement of the value of tuberculin which appeared in the *American Journal of the Medical Sciences* in 1907. It marked the renaissance of tuberculin in this country. When I reread that carefully prepared statement and then turn to the enthusiastic writings of Bandelier and Roepke I stand aghast at the vast differences in men when treating the same subject, as well as the apparently clear demonstration of the lack of real knowledge of tuberculin. I feel definitely sure that at least some of the repute of the use of tuberculin as a sanatorium procedure is due to the fact that without a routine measure such as the administration of tuberculin affords patients cannot be kept long enough under institutional management to accomplish much of anything; or, to state it differently, it is easier to keep them working for cure if something definite and tangible is being done for them. Tuberculin, therefore, with its pseudoscientific reputation, is an almost ideal weapon against human weakness and restlessness. It seems to me that if tuberculin employed with such care as to be harmless did no more than this it would be worth something—simply as the faithful ally of the sanatorium physician, whose measure of accomplishment is often largely that of keeping a patient faithfully working long enough to try out the case.

It should be almost needless to state, however, that no honest man could use tuberculin if not convinced of its usefulness, and that most of us are. Exactly when and how to apply it is quite another question and one which no one can answer definitely. I cannot show statistically that my results in terms of cure are much better since I have been using tuberculin than previously when I did not use it, though, in terms of those still living the results are better, as found by Trudeau. On its face value this is a good reason for faith in tuberculin, although in this better post-discharge mortality under tuberculin we must certainly consider the possibility of its being accounted for by natural selection—in other words, in the most favorable cases tuberculin is best tolerated, and this toleration might be taken as a measure of resistance rather than that the better prognosis is due to the administration of tuberculin. That this is absolutely true of those cases in which tuberculin is accepted as though it were water, I have no doubt, excepting, of course, very advanced cases in which reaction power has been lost.

An excellent reason for faith in tuberculin is this: We are all familiar with the permanence of type in tuberculosis; that afebrile cases tend to continue afebrile throughout the course of the disease, and *per contra,* febrile cases continue febrile in the same manner. It is certain that with tuberculin we can change more cases from the febrile to the afebrile class than without it. It is also certain that, regardless of class, we not infrequently see sudden clinical cure or improvement follow reactions. Tuberculosis is usually chronic in its progression as in its retrogression; nothing, as a rule, happens suddenly, least of all improvement or cure, and when such events follow reactions, then the only sane deduction is that the tuberculin accounts for it. A few years ago I stopped the use of tuberculin in my work—to enable me to recover my standards and be more certain of what I was doing. I did not use it for six months and it certainly seemed to me that without it the course of events in my institution was not so smooth as before; that the manifestations of the disease were more tumultuous; there were more eruptions and flareups. You will remember that Trudeau maintains the same thing.

In which cases to abstain altogether from the use of tuberculin, knowing beforehand that it will not be tolerated, and in which it must be used if recovery is to occur—these are questions which no one can answer. The opsonic method, heralded as at least a partial reply to this difficult question, has gone into the limbo of widely proclaimed and soon forgotten discoveries in medicine. We have left only the clinical method, which after all, is but careful experimentation in each and every instance in which tuberculin is applied.

The use of tuberculin in my hands has been an evolution. I began using it only in cases in which recovery was reasonably sure without it, and have gradually extended its use, as I have found that with sufficient care it may be given to anyone, or its futility demonstrated in any individual case with absolutely no danger. It must be remembered that in sanatorium work we have only a limited time in which to apply our measures for the relief of our patients; to be exact, in my work there is an average of nine months, and also, it should be remembered, in all probability the patient will not have another chance. What is accomplished must be performed in these all too few months. I admit that, granted all the time necessary, I would first demonstrate the possibility of improvement or cure without tuberculin in practically each and every case before resorting to its use. With, however, the limited time available in mind, and knowing that tuberculin can be given safely to anyone, or that its use may be stopped without subsequent damage to the patient when the indications for so doing are manifested, and that it is wholly necessary in some cases which we have no means of selecting beforehand, I feel it my duty to do as much good with it as I can in the limited time which the exigencies of the work and human nature will grant.

All I know of the use of tuberculin I have learned in the school of experience. First, I had to discover that with the newer and more active preparations no dose larger than 1/1,000,000 mg. is absolutely safe as a beginning dose; that occasionally marked reactions would be witnessed in afebrile cases with either the B. E. or B. F. in so small a dose as 8/1,000,000 mg. In such instances it proves necessary to start with 1/10,000,000 mg. Now, except in very incipient afebrile cases I never start with a larger dose than that first named, and in the best type of cases with a dose no larger than 1/100,000 mg.

The bouillon filtrate I use twice a week, unless it seems wise, as experience is gained with the individual, to lengthen the interval, and the doses of Bacillen Emulsion are spaced six days apart. As practically everyone is familiar with the clinical method of gradual increase of dose it is not necessary to discuss it at length. In some ways my practice differs widely from that in common use, as will be referred to later. At the slightest hint gained from daily careful observation of symptomatology, the dose is either reduced or repeated. The most valuable symptoms of supertuberculinization are tired feeling, increase of cough or expectoration, boneache, and, as a rule lastly, rise of temperature. In the presence of these symptoms the rule must be either to repeat or reduce the dose, and to repeat at the reduced dose or repeated dose until it seems perfectly safe to continue, doing so in fractions if it seems wise. We should always keep in mind the fact that there is no such thing as a course of tuberculin, and that almost any dose attained may prove to be the most valuable one for our patient. In fact it is my conviction that the dose which is just short of producing manifestations of reaction is the one most likely to be efficient, and that if we had a safe and reliable method of determining this dose beforehand much time might be saved. It must not be forgotten that the practically indefinite repetition of the seemingly effective dose may be all that is required.

The afebrile cases, though a fairly large proportion of them will accept each and every increase of dose without symptoms, are those in which it is usually impossible for the clinician to be sure that his tuberculin has accomplished anything. Experience has shown clearly that when tuberculin is received without symptoms it is surely harmless, but that in such cases it actually does good is problematic. The cases without fever are those in which we recognize the best natural resistance to the disease, or those in which to a great extent there is a natural toxic immunity. It is reasonable that such patients should accept the toxin or allied toxin to which they have already proved their resistance. We must admit that natural tuberculosis toxemia is at least related to tuberculin poisoning. It is also, it seems to me, reasonable to expect less benefit from the use of tuberculin in such cases than in those in which it is used with at least some difficulty.

Recognizing the brilliant results which occasionally follow reactions, it may be asked, why not raise the dose progressively and sufficiently rapidly to accomplish the reaction? The answer is plain: An occasional and slight reaction is certainly not to be feared; it may do good, and in my experience is not harmful. But the reaction is beyond our control when once induced: it is always a sign of supertuberculinization, and when violent or often repeated may result in positive damage, by breaking or impairing the degree of natural toxic resistance the patient may possess, or even causing rapid extension of the lesion. This we all know from the bitter experience of twenty years ago.

It is unquestionably rational to improve toxic resistance by tuberculin administration, but when tuberculin hypersusceptibility is encountered there remains but one thing to do: stop the tuberculin at once and probably for good. To continue on the appearance of symptoms denoting hypersusceptibility as shown by reaction phenomena on reduced dosage is a crime. I have had some experience of a retrial in such cases after a year or two, and such as it is it surely indicates that the ability to neutralize tuberculin has been permanently impaired. Though not fearing slight reactions—and that is about all the careful man will ever get—I do not feel that the present state of our knowledge justifies their deliberate cultivation. Occasionally most brilliant results have followed violent reactions, an instance of which came under my observation several years ago, when a patient received 600 mg. by mistake for 60. The resulting reaction was tremendous, and it was thought the patient might die. He recovered rapidly, however, and has never had any symptoms of tuberculosis since, and now four years have passed.

In a speciality full of uncertainties and surprises, like phthisiotherapy, nothing can be surer than the prognosis based on tuberculin immunity. We absolutely know that, given one hundred cases in which each dose of tuberculin is accepted as though it were water, and one hundred in which it is given with difficulty, or in which the impossibility of its administration is demonstrated, the natural expectation of life is vastly better in the first-named class. Practically this amounts to a demonstration of the close relationship that exists between tuberculin and the toxemia of tuberculosis. In this connection it must be granted that I have not in mind those far-advanced and hopeless cases in which reaction ability is exhausted, and in which a seeming tuberculin immunity is an expression of grave prognosis.

It is in those cases of the afebrile class in which at least some difficulty of administration is encountered that we are justified in interpreting our good results in terms of tuberculin achievement, and it is in such that the principle of repeating or lowering the dose must be most religiously followed. The tuberculin immunizator should have ever in mind the rule to avoid sins of commission, and if he cannot he does best to let this powerful substance alone.

I have now to speak of what is to me the most interesting class of tuberculous invalids in their relation to tuberculin. I refer to those with an average daily maximum temperature between 99 and 100 F. My method of using tuberculin in this class is a product of my own experience. We all recognize that the tendency of these cases with a chronic febrility of the type named, and in which no result is obtained from rest, is not only to continue with the same temperature curve day after day, but to present the signs of slow progression. Tuberculin enables us to save at least a fair proportion of these otherwise doomed patients, and in them my procedure is radically different from that employed in any other class, and on its face somewhat contradictory, I must admit. Starting with a known safe dose it is slowly increased until, should it fortunately occur, there is a slight drop in temperature on the day following the dose or on the same day. Should such a drop occur, even though it be but a fraction of a degree, the dose is held at the point reached until the temperature again rises, when it is not reduced, but raised, following the temperature up, as it were, and again repeated as before until little by little the temperature is forced to normal. The dose effective in obtaining the normal temperature is repeated practically indefinitely, or after a time, tuberculin resistance having been well cultivated, it is cautiously raised, sometimes to the limit of a 1,000 mg. These patients with the slight daily rise of temperature are, we may say, on the fence as regards progression or retrogression of their disease, with the course usually in favor of slow progression, and in them tuberculin finds its most positively useful field of application. In such cases it is unquestionably often the means of carrying to safety at least a fair proportion of the patients who would otherwise join the ranks of those discharged unimproved—progressive. We have in such instances deliberately cultivated what they did not have before; namely, resistance to tuberculosis, and it is certainly a grand accomplishment.

I mention only to condemn in plain and unequivocal terms the use of tuberculin in high fever cases, those in which the average daily maximum temperature is over 100 F., and in which the patient is already supertuberculinized or overwhelmed with some allied toxin. I have tried it out faithfully, and though, in such cases, each increase of dose may be accepted without additional symptoms, it has never been successful in my experience. These are the cases in which we suppose there is or may be a symbiosis of other organisms to which some, at least, of the fever may be due. Tuberculin, then, we might reasonably expect to be totally ineffective, and even if we grant that other organisms play but an insignificant rôle in fever production, and that the patient is simply overwhelmed with tuberculous toxemia, still we cannot expect more of the same poison or allied poison to prove beneficial. We abstain from the use of tuberculin in such cases for the same reason that we discontinue it when hypersusceptibility is induced. These are the cases in which the patient most needs our assistance, and in which we find ourselves least able to give it.

OTHER THERAPEUTIC MEASURES

Vaccine.—In the patients with persistent and severe febrility just referred to I have made a faithful and persevering trial of homologous vaccines during the past two years. I have seen just enough seemingly good results to encourage continued effort with them, but by no means to enable me either to endorse or to condemn their use.

Rest and Exercise.—Though the pulmonary or other lesions in tuberculosis may be important, it is certainly a fact that the disease is manifested to us as a chronic intoxication, and the question of rest and exercise is absolutely settled in my opinion by the presence or absence of the signs of this intoxication. As long as by elevation of pulse and temperature, as well as emaciation, we know that the patient is not neutralizing the quantity of poison elaborated, then it becomes perfectly plain that the balance must be in favor of rest, and whether complete or relative, must be determined individually by the degree of intoxication present. As soon as these symptoms are in abeyance, then graded exercises, for the purpose of restoring the muscular system, as well as for the effect on metabolism, must be instituted, with accompanying careful observation of pulse and temperature. This method in my hands has yielded excellent results, and I see no reason at present for its abandonment in favor of the theory of auto-inoculation by exercise.

Citrate of Iron in Anemia.—With the indefinite and piecemeal knowledge that still characterizes medicine, it is but seldom that a physician finds himself in a position of being able to endorse a therapeutic measure in a whole-hearted manner. This I find myself able to do in the hypodermic administration of citrate of iron in the common secondary anemia of tuberculosis. A residence in a high altitude has an undoubted influence for good in secondary anemias, but now, with the hypodermic use of citrate of iron, we do not have to await natural restoration of the hemoglobin content in this manifestation of tuberculous toxemia, but may, with almost mathematical precision and in practically every case cause the hemoglobin reading to be normal in from twenty to forty days. My favorite prescription for this purpose is as follows: Citrate of iron, 0.10; sodium glycerophosphate, 0.50; sodium metarsenate, 0.10; strychnin, 0.001. In another place my associate, Dr. Peters, has fully reported our use of iron for this purpose, and it is not necessary to go farther into the subject here.

Diet.—After having tried every sort of dietetic scheme so far recommended in tuberculosis, I am positively of the opinion that the only important dietetic principle is that of sufficient plain and wholesome food. There has long been a strong prejudice among phthisiotherapists in favor of an excess of proteids in the diet of consumptives. During recent years, following the lead of Crittenden and Fisher of Yale, and the splendid work they have done in the department of dietetics, I have been slowly swinging away from the excessive proteid diet, and so far, I am sure, without injury to the work. What is meant by forced feeding, and the only sense in which forced feeding can be absolved from the epithet "outrage on the patient", is simply enough food in the individual case to maintain losses and, if possible, restore the normal weight. There is absolutely nothing but indigestion and auto-intoxication to result from the real forced feeding, the stuffing process, such as was practiced ten or fifteen years ago. I have never been able to prove to my own satisfaction that altering the constituents of the diet, except to meet individual digestive indications, has any practical application in tuberculosis. As soon as toxemia has been removed, then the natural appetite becomes the best possible dietetic guide.

Formaldehyd in Laryngeal Tuberculosis.—In closing I would like to call attention once more to my method of applying formaldehyd in laryngeal tuberculosis. I recognize, of course, that the actual cautery as well as direct surgical intervention, as in removal of the epiglottis, have a place in the management of this often distressing complication. Taking it by and large, the twice daily direct application of a dilution of liquor formaldehydi solution in both the ulcerative and infiltrated types of laryngeal tuberculosis has yielded such excellent results in my hands that I am inclined to urge its use in all institutions for tuberculosis. This method is very tedious and really practicable only in institutions where the patient is at all times available. The method and its results I reported in full to the last International Congress on Tuberculosis. It has enabled me to achieve 35 per cent. of recoveries in the larynx, and 18 per cent. of recoveries, taking the larynx and other lesions together. Realizing that tuberculosis of the larynx is, as a rule, a complication of otherwise bad cases, especially in its severe ulcerative manifestations, the results indicate to me that the method has much to recommend it.

ABSTRACT OF DISCUSSION

Dr. A. H. Andrews, Chicago: I wish to mention certain points in the paper in order to emphasize them. First, we should not underestimate the value of sanitarium training for these patients. This is of value, regardless of whether or not they recover. It trains them in their own sanitation, and it makes those around them, with whom they must come in contact, less liable to contract the disease. I live not very far from one of these open-air sanitariums and I come in contact with patients who have been there. Some of them are apparently well and some of them are not well and will not get well, but they are all thoroughly drilled in their own sanitation. Next, I would emphasize the importance of personal contact with some one who has faith in the future for these patients. You have to imbue them with your own courage, in order that many of them may get well. The psychic side is important. Many who cannot get well are very optimistic, and many, who otherwise would not get well, may be helped by the optimism of the physician. It is fortunate when the man at the head of the sanitarium is optimistic and can come into direct, close personal contact with the patients.

Dr. E. R. Carpenter, El Paso, Tex.: It is too bad that Dr. Bullock could not take up in his paper his work on laryngeal tuberculosis. Having lived in the same community I have had an opportunity to observe some of his patients before and after treatment, and it is marvelous what may be accomplished. I have seen cases of infiltration and ulceration, in which recovery seemed impossible, and yet in some 35 per cent of these patients recovery takes place. No one in private office work can obtain such good results in this class of work. There are a good many of his patients whom possibly a more expert laryngologist could cure more quickly, but there are many things we can do in the institutional treatment of these patients that are impracticable in private office practice.

Dr. Sherman Voorhees, Elmira, N. Y.: I was somewhat disappointed that the reader of the paper did not say more regarding laryngeal tuberculosis. Formerly I felt that I must send these patients to the southwest high and dry altitude, where I have had many excellent recoveries. But my experience has been that many of these patients cannot return East and maintain good health. On returning, after pronounced cured in the Southwest, they would have a return of the trouble. In the last few years I have been sending these patients to the Adirondacks, and those that have recovered have remained well after returning home. So I think we should take into consideration the surroundings of these patients. In Elmira we have found that at an elevation of 1,000 or 1,200 feet, under proper regime, our patients do as well as at higher altitudes, whether the Adirondacks, the Catskills or the mountains of the Southwest. A patient sent to a resort near his residence, often does better than when sent to the Southwest, where they are under different conditions. Some of my patients have objected to the everlasting sunshine to which they have not been accustomed. It seems to me that possibly better results are secured by the use of tuberculin and the regime in a small sanitarium.

Dr. Thompson B. Wright, Pasadena: I want first to endorse what Dr. Bullock has said about sanitarium treatment. I think all of us will agree that we cannot accomplish in private practice what can be accomplished in a sanitarium. I was very much impressed by what he said about tuberculin, and feel that his conservative methods should be heartily endorsed. His experience was especially interesting in the giving of tuberculin in larger doses than the usual ones, in febrile cases under certain circumstances. I have had a similar experience in a few cases and have noted that results may be governed somewhat by the initial drop of temperature of which he speaks. I want to congratulate Dr. Bullock on the excellent results he has achieved, considering the handicap of the bad climate he has been working in. It seems to me they are wonderful. I formerly practiced in Ohio and sent patients to the Alleghenies, the Adirondacks, to South Carolina, to Southern California and, also, to Denver.

A large percentage of those sent to the Alleghenies and to California recovered; but those sent to Denver all died promptly. I have been impressed by the statement, made by a prominent Denver physician (Dr. Holden), that, in examining patients sent to him from the East, often a larger lung area will be found involved than was reported by the men sending them. That would indicate an increased hyperemic area induced by the stimulation of the higher altitude. This may be a good thing. It is what we get in tuberculin reactions, and frequently we get secondary good results from these reactions. But, if the patient does not recover quickly from the hyperemia, he may die very promptly, or remain permanently worse. And this is an element to be considered in sending patients to a high altitude, especially when they have been accustomed to elevations near the sea level. It is a risk for them to go at once to an altitude of perhaps 5,000 to 6,000 feet.

I was much impressed by what Dr. John C. King of Banning, Cal., told me, namely, that he had never seen a patient with tuberculosis complicated by organic heart disease recover at Banning, where the elevation is 2,300 feet. If that is true at Banning, how much more must it be true at higher elevations.

Dr. Bullock has had remarkable results: but, if you compare them with the results obtained by Von Ruck at Asheville, by Brown and Baldwin at Saranac and by Pottenger at Monrovia, whose results are as good as his own, we are forced to the conclusion that climate is not the most important factor in the treatment of tuberculosis; but that more depends on the man who is in control of the sanitarium and carrying out the treatment than on the elevation.

DR. G. B. WEBB, Colorado Springs: For many years I have been trying to find out a scientific explanation for the possible advantages of climate and altitude in tuberculosis. It is well known that there is usually some scientific basis for the survival of a time-honored remedy, and, as Dr. Bullock remarked, people have been using altitude as a therapeutic measure for some 2,000 years. For an indefinite period our good mothers have used the hot mustard foot bath in the treatment of their children for colds. Science has explained that this measure produces a beneficial leukocytosis. When our mothers have poulticed abscesses and boils, science has revealed that they have thereby produced an increased flow of blood and opsonin to the diseased areas. It was my good fortune a few years ago to discover, together with Dr. W. W. Williams, that one effect of altitude is to increase the lymphocytes in the circulating blood. A large amount of recent scientific work has pointed to the lymphocytes as the active warriors against the tubercle bacillus. The tubercle bacilli contains about 30 per cent. by weight of wax resembling beeswax. Wax is difficult for our body cells to digest, but the lymphocyte is easily able to do so. At an altitude of 6,000 feet these lymphocytes are increased 40 per cent, and I am inclined to believe that this factor is probably of great importance in the cure of tuberculosis at altitudes and in part explains the high degree of immunity to tuberculosis which residents at these altitudes seem to possess.

DR. B. R. SHURLY, Detroit, Mich.: It has been my privilege and pleasure, for some twelve or fifteen years to send patients with tuberculosis to the Southwest, and during that period Dr. Bullock has had between seventy-five and a hundred of these patients. I have watched these patients from year to year to observe what the effect has been in the climatic treatment in the Southwest, and to carefully observe those that have returned to our own climate of Michigan, which is a particularly moist and bad climate for this disease. And I have tried, if possible, to make some deductions, from which I might, myself, draw some conclusions and some confirmation of the theories in regard to climatic treatment. Many of them are patients that have come under observation because of nose and throat symptoms, with the diagnosis of a pulmonary lesion as a secondary matter. And I may state, by the way, that I have never seen laryngeal tuberculosis unattended by a pulmonary lesion. There may be such cases, but it has not been my privilege to see them. This may be because the cases that come to a specialist, come after the difficulty has existed for some months. At any rate, I have not found cases of laryngeal tuberculosis without some pulmonary lesion. Therefore, the treatment of laryngeal tuberculosis must include the treatment of pulmonary tuberculosis in the vast majority of cases. It is a compound problem. In sending these patients away from home, we have a great responsibility. Many of them are sent uselessly, as we know, and it is essential that we should have some definite classification of the patients we will send away to the Southwest and those we will keep at home. The first consideration is the matter of finances. In some of the advanced cases, patients who are hopeless wrecks, with a few months, perhaps, of life, it is absolutely wrong even to mention the great value of sending cases to the Southwest—something of value that is impossible to them. Unless they can have at least $1,000 and go under proper medical supervision, it is certainly wrong for us to send them away. We can do much better with these patients at home. The question of early diagnosis, then, is the one which should concern us more than any other. And I think we should, as far as possible, constitute ourselves missionaries in our own home circles to impress the importance of the early diagnosis in tuberculosis. All of us who treat throat patients, often see the picture in the larynx, the peculiar anemic, white larynx, that should arouse the suspicion that perhaps something is wrong further down the respiratory tract. A crusade along this line will be very valuable aid to those who develop this dreadful disease.

DR. ALBERT H. SCHERMANN, Flagstaff, Ariz.: It is hard to say why high altitudes are a benefit, unless it is the increased leukocytosis and possibly the absence of pus organisms. In surgical work, we notice in high altitudes we are not so liable to have infected wounds. The pus organisms do not seem to be so abundant there as at sea-level. Possibly in tuberculosis this enables us to avoid the mixed infection. The cure of tuberculosis is largely dependent on avoiding or getting rid of the mixed infection.

DR. E. S. BULLOCK, Silver City, N. Mex.: As a profession we do not seem to be able to come to any conclusion as to the value of climate. Scientifically Dr. Webb, as well as my associate, Dr. L. S. Peters, and myself, has done a great deal to elucidate this problem. I have, it seems, but one gentleman to reply to, and he says the results are practically the same, regardless of altitude. In a paper read before the Chicago Medical Society I compared the results obtained at sanatoriums at sea-level and those at high altitudes, and I found fully 30 per cent. of difference in the statistics in favor of high climate. Dr. Turban, of Davos Platz, has published results proving the same thing for Europe. Some of us may be overoptimistic in marking our cases, but that could not hold regarding all the reports we receive from sanatoriums. We often find, as Dr. Wright says, lesions of greater extent when the patients come to us than were reported at the patient's home. That is the result, not of the bad effect of high altitude on the lesion, but probably because the initial diagnosis at the patient's home is often very faulty. We who do this work know we can never master this subject or control tuberculosis until we teach the profession at large how to make an early diagnosis. That does not apply to specialists, but it does apply to the rank and file.

THREE UNUSUAL BRONCHOSCOPIC CASES

A. TUMOR IN THE BRONCHUS. B. TRACHEAL STENOSIS. C. TRACHEAL SCLEROMA *

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Case 1.—Margaret I. W., aged 3 years, was referred to me Sept. 16, 1910, by Dr. Linn Emerson, presenting the following history:

History.—At the age of eleven days she had a sudden attack of obstruction to her breathing, which yielded to treatment after a short time. Until January of the present year, she had been well. At this time she had an attack of grippe followed by a spasmodic cough, the latter remaining ever since. July 4, she had an attack of measles, and on the 25th her breathing became so interfered with that emphysema of the neck and body appeared, lasting several days. At the present time breathes with a loud expiratory effort day and night. Has chronic constipation, prolapsus ani, and a capricious appetite.

Examination.—Child is well nourished and has good color. There is a peculiar, loud respiration showing interference with the expiratory act. The respirations are so loud as to be heard quite a distance and remain of this character day and night, becoming somewhat worse on crying or exertion. There is no rise of temperature, and the child plays about, getting easily tired, however. While she is never cyanosed, her distress in breathing often culminates in an attack of vomiting, but without relief to the breathing. The examination of the chest shows a sudden distention of the entire chest wall at each expiratory effort, except for the lower portion of the left lung. In this part there is dulness on percussion and entire absence of air entering the lung in the left lower lobe. There is no bronchial catarrh. The diagnosis of some form of stenosis of the bronchus at the bifurcation on the left side was made. An *x*-ray picture, taken by Dr. Jaches, radiographist of Mt. Sinai Hospital, showed an absence of air entering the lower lobe of the left lung. There was no evidence of any foreign body shown in the *x*-ray picture.

Operation.—At Mt. Sinai Hospital, under gas and ether, bronchoscopy was done on September 30, the instrument used being the Killian hand light with a short tube. The child took the anesthesia very badly and was very much cyanosed. The holding of the epiglottis increased the cyanosis to so marked a degree that it was rapidly withdrawn. In the meantime, Dr. Yankauer, who assisted me, had a long tube attached to another Killian hand light to which he had an attachment for the throwing of ether vapor into the tube during the entire examination, and at my request he introduced the longer tube rapidly into the bronchus. At the bifurcation, directly over the entrance to the left lung, a new growth was seen having the general appearances of a papilloma; there seemed to be several of them with small pedicles and having in all a diameter of one-half inch. These were promptly removed and after their removal the breathing became very much freer, and air again entered at the lower portion of the left lung. The growth was referred to Dr. F. S. Mandelbaum, pathologist of Mt. Sinai Hospital, who reported that, the growth having been placed in formaldehyd solution, it was impossible to test for tubercle bacilli, but that the growth had all the appearances of syphilis.

Subsequent History.—The child recovered from the effects of the anesthesia, air freely entering into the formerly obstructed lung, and on the third day the child was sent to its home.

Five months later the examination of the child showed no evidence of interference with respiration, the cough having gradually ceased, and the child was apparently well. In the meantime the child had been examined by Dr. Sara Welt Kakels, whose report follows: "Well-developed child for her age; weight 26¾ pounds; temperature normal. On the skin and visible mucosae nothing abnormal. Of the superficial lymphatic glands, the anterior cervical and inguinal glands are slightly enlarged. The inspection of the buccal cavity shows a slight hypertrophy of the tonsils; voice and respiration are perfectly normal. Inspection of the thorax shows that the chest walls move freely during respiration, apparently symmetrically on both sides; percussion over both lungs is clear and resonant; lower borders of both lungs normal. On auscultation vesicular breathing is to be heard; on and off harsh over all the lobes of the lungs; heart normal on percussion and auscultation; thymus dulness present. Of the organs of the abdomen, the spleen is not palpable; the liver is very slightly enlarged; its lower border is one finger's breadth below the costal arch in the nipple line, while in the median line it is slightly above a point midway between the umbilicus and the xyphoid process. The urine shows no trace of albumin or sugar. The feces show microscopically no pathologic constituents. The blood-count is as follows: Hemoglobin 70 per cent.; red blood-cells 3,600,000; white blood-cells 10,200; differential count, polynuclears 59 per cent., small mononuclears 30 per cent., large mononuclears 8 per cent., eosinophils 3 per cent. Wassermann's test was negative."

A most careful investigation into the family history as well as that of the child, shows no evidence of specific disease. A summary of the case shows that the clinical diagnosis of a stenosis of the bronchus at the entrance of the left lower lobe of the lung was fully established, and that a happy result followed the removal of the growth. This is a combination that is exceedingly rare.

Case 2.—Rose L., aged 12 years, an inmate of an orphan asylum, whose past history is necessarily indefinite, was referred to me Dec. 12, 1910, with the following history:

History.—Except for an attack of diphtheria six years ago, followed by a protracted cough, she had been, as far as known, entirely well until four weeks ago when she began to cough, constantly, spasmodically, and without secretion. There was a short, sharp, ringing cough with intervals of a few seconds, sounding more like the bark of a dog than a cough, rasping and very noisy. While not so frequent at night, still it occurred then. All manner of treatment had failed to relieve it; there was no dyspnea; the voice was clear, and there were no râles in the chest. It is almost impossible to express the extreme annoyance to the child as also to its surroundings, occasioned by this noisy cough.

Examination.—The child had hypertrophied tonsils and an adenoid growth, but these were not considered as factors in causing cough. Below the chords, high up in the trachea, there was a tracheal thickening which showed itself not only in the laryngeal tissue but also by direct examination. The bronchoscopic tube was then introduced, and on its introduction it was felt to pass through the firm constriction and the diagnosis of spasmodic cough due to a tracheal stenosis, probably post-diphtheritic, was made. The report of the findings was made the following day to the attending physician, Dr. Gershel, who reported that, immediately following the bronchoscopy, all cough had ceased and this condition of cure of most distressing cough has remained permanent from the single dilatation following the entrance of the bronchoscopic tube. The general appearance of the trachea at the time of examination clinically resembled those cases of tracheal scleroma that I have seen, and the diagnosis would have been investigated were it not for the fact that the child was born in the United States, and no case of this affection originating *de novo* in this country has ever been presented. The examination with the bronchoscope was readily made under local anesthesia.

Case 3.—Rachel R., aged 18 years, six years in the United States, a native of Russian Poland, was admitted to the surgical wards of Mt. Sinai Hospital, service of Dr. Howard Lilienthal, two and a half years ago, suffering from dyspnea, requiring tracheotomy. Before operating, Dr. Lilienthal requested me to see the case to determine the nature of the stenosis.

Examination.—I found a tracheal thickening with much induration on the line of the cricoid cartilage, and much crust formation in the nose with hyperplasia, and I made the clinical diagnosis of tracheal scleroma. A portion of the thickened tissue from the nose was removed and sent to the pathologic department for examination. The report came back from Dr. F. S. Mandelbaum, chief of that department, that it was negative. A second portion was removed a few days later and this time it was reported rhino-scleroma. Operation was not advised and the patient was then kindly referred by Dr. Lilienthal to the out-patient department of the Mt. Sinai Hospital Dispensary under my care. The dyspnea subsided, the voice was husky and the nasal secretions kept up their crust formations until a year ago when she began again to show symptoms of tracheal obstruction. From this time on dilatation by means of the Killian tubes was practiced every week regularly with the result that the breathing became normal. Of late the dilatation has been done less frequently, about once a fortnight; and the patient is in a very comfortable condition. The bronchoscopic tube in this case enters very readily; the patient has become tolerant and she has been exhibited at various medical societies, usually permitting the introduction of the bronchoscopic tube in about thirty seconds' time. During my absence from the city, the same treatment was followed by Dr. Yankauer.

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* Read before the American Laryngological Association at its thirty-third annual meeting, Philadelphia, 1911.

This case is of special interest in that most cases of tracheal scleroma have heretofore required tracheotomy together with the more or less constant wearing of the canula. This method is surely only palliative.

In presenting these three unusual cases, I conclude that the correctness of the clinical diagnosis was fully established in the first case, while the happy result of complete recovery followed the removal of the growth which failed to show any symptoms of syphilis, and in the absence of all tests must be put down as a benign growth, again illustrating the value of the bronchoscope as a means of diagnosis and an assistance in the surgical treatment of these cases.

In the second and third cases, the bronchoscope was first used as a means of diagnosis and then as a remedial agent, producing cure by rapid dilation in one case, and giving decided relief in the other.

40 East Forty-First Street.

PLACENTA PRÆVIA—A WARNING

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Within the last two years an unusually large number of articles have appeared in the medical press on the subject of placenta prævia, the last article being the exhaustive one by Ellice McDonald, in *Surgery, Gynecology, and Obstetrics*, of June, 1911. In these different articles, and in the various text-books at my command, I fail to find any reference whatever to the possibility of concealed hemorrhage going on after the leg had been brought down by the Braxton-Hicks method.

That that is a very real danger, however, though undoubtedly very rare, is evidenced by a case which I saw in consultation about two years ago.

The patient was in charge of an unusually well-qualified young physician, a graduate of Johns Hopkins. She was a multipara, whose previous labors had been easy. She had been having slight hemorrhages, but nothing alarming. Further delay, however, being thought inadvisable, she was brought to the hospital for delivery, and I saw her then for the first time in consultation. It was decided to adopt the Braxton-Hicks procedure, and with no difficulty I brought down a leg, as I had done in very many previous cases. The parts were dilating nicely, and thoroughly dilatable, so that it seemed evident that delivery would be accomplished in a short time. As there was no further need for my services I left the patient, her physician exerting steady traction, which seemed to put a complete stop to hemorrhage. Very little blood had been lost during the manipulation. Within an hour, and while I was taking lunch in the hospital dining-room, an assistant came in and said that he thought the attending physician would like to see me, as the patient seemed to be going to pieces. I left the table instantly, and within a minute was at the patient's bedside. She was dying in collapse, and a glance at the abdomen showed the uterine tumor much larger than before, so that the diagnosis of internal hemorrhage was apparent. I directed the doctor to pull, while I exerted pressure above, and in an instant the child was born, the birth being followed by such a deluge of blood and blood-clots as I had never seen before. The patient was *in articulo mortis*, and expired a very few moments after the child was delivered.

Since the above was written there have appeared, in the *American Journal of Obstetrics*, the papers which constituted a symposium on placenta prævia at the last meeting of the American Gynecological Society. These papers are by Edwin B. Cragin, Edward P. Davis, J. Clifton Edgar, Henry D. Fry and T. S. Newell. None of these papers mentions the possibility of a concealed hemorrhage after the leg is brought down, while Fry speaks positively of "bleeding being absolutely under control" by this method, and advises slow delivery to prevent laceration of the lower uterine segment. A few paragraphs later he adds: "hemorrhage is controlled, and if the delivery is left to uterine action the dilatation is slow and safe."

Had the text-books contained any warning of the possibility of concealed hemorrhage going on in these cases, I think the attending physician would have been on his guard and would have recognized the condition before the hemorrhage had reached a fatal stage.

I have had a rather large consultation experience in placenta prævia, and this is the only death from hemorrhage of which I have had any personal knowledge, and this death can be looked on as in a sense unnecessary.

A MODIFICATION OF SLUDER'S METHOD OF TONSILLECTOMY

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The purpose of this paper is to describe a modification of the method of guillotine tonsillectomy which Dr. Sluder advocated in THE JOURNAL March 25, 1911, page 867. This modification has been used by me with unvarying success in seventeen cases; its results have proved equal to any dissection tonsillectomy operation formerly tried. It has invariably removed the tonsil and capsule completely, rapidly and bloodlessly. This modification consists in using the ordinary tonsil snare, passed over the tonsil external to the already applied guillotine. Specifically, after the tonsil has been pressed through the window of the guillotine, by the alveolar eminence of the mandible, and engaged by the blade of the guillotine, in the manner described by Dr. Sluder, the distal end of the snare loop is passed over the guillotine and under guidance of the index-finger is placed posterior to, and thus external to, the tonsil and its capsule. Tightening the snare, in the usual manner for the particular snare, completes the removal.

In the use of this method it has not been found necessary to go in twice for any tonsil, however soft, shallow or imbedded. Dr. Sluder mentions the occasional need of going in a second time for remnants of tonsil or capsule. This is probably due to faulty technic, especially if this modification is used; for, if the tonsil is pressed through the guillotine so that the tonsil is drawn from its bed, the snare, when passed over, can be depended on to complete the dissection thoroughly. Further, the snare wound is less likely to bleed than any sharp or dull guillotine wound.

This method is far more rapid than any other form of tonsillectomy. I have myself operated on five cases of tonsils and adenoids in forty minutes, including the time for ether administration. I do not remove any of the anterior pillar as advocated by Dr. Sluder and see no advantage in so doing. This itself may be a frequent source of bleeding. In all other details, I follow closely the description of Dr. Sluder.

419 Boylston Street.

CHALK PASTE A SUBSTITUTE FOR BISMUTH PASTE

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Medical science is deeply indebted to Beck of Chicago for bringing forward the curative properties of bismuth paste. Many a now-healed sinus would still be discharging pus but for the agency of this paste. Since Beck contributed his technic, no appreciable advance has been made by any other surgeon.

Bismuth paste, however, has its limitations. Its chief danger is nitrite poisoning, even when the paste is used in but moderate amount. Two years ago, I witnessed a case in which such poisoning developed. A patient was being treated for a sinus which had persisted eight months following an empyema operation. About four ounches of paste were injected. Three days later, the resulting combination of stomatitis, intestinal colic, diarrhea, albuminuria and symptoms of collapse necessitated the removal of the paste. The patient refused further treatment and left the hospital with the sinus still discharging.

The germicidal action of bismuth is slight. The action of the paste is for the most part mechanical. It is a foreign body, and as such, stimulates a local leukocytosis. Further, it keeps the walls of a wound separated, allowing healing to take place by granulation from the bottom. Bismuth, the metal, has no magical properties. In the paste, then, it is merely a mechanical stimulant to local leukocytosis.

As bismuth has no exclusively specific property, and moreover has the disadvantage of being poisonous, it is necessary to seek a non-poisonous substitute for use in sinuses requiring large quantities. A patient consulted me for the treatment of a large sinus in the thigh following a psoas abscess, and three tuberculous sinuses leading into the shoulder joint. To inject either bismuth or iodoform meant to invite drug poisoning. I decided to try a substitute for the bismuth nitrate, and my final choice was a paste containing equal parts of petrolatum and chalk. This healed all the cavities satisfactorily in three months.

Chalk paste is an improvement on bismuth paste. Like the bismuth, it separates the walls of the wound, and allows *x*-ray photographs. It seems more active than bismuth, probably because the calcium is a proved chemical, as well as a mechanical, stimulant to local leukocytosis. It is safer than bismuth, for a patient cannot be poisoned with chalk.

Chalk paste has won my confidence, and I offer it to the medical profession as an improvement on bismuth paste in every case in which paste injection is indicated.

COMPARATIVE VALUE OF SOME URETHRAL AND OTHER GERMICIDES

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AND
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The experiments which form the basis of this contribution were done under the kind direction of Dr. Charles Norris, director of the pathologic department of Bellevue Hospital.

The method employed was as follows: To 2 c.c. of the various dilutions of antiseptics to be tested, were added 2 c.c. of a salt emulsion of the organisms used. It will immediately be seen that this procedure diluted to one-half the antiseptic solution. To equalize this, double the strength of the antiseptic solution was used. The silver preparations were bought in original bottles and prepared according to directions. The liquor cresolis compositus, under the commercial name of lysol, was from the hospital drug supply.

In the case of each organism but a single strain was employed. Controls for each organism were made and the average number of colonies, per plate, were noted. The tubes in which the bacteria were exposed to the different solutions of the different germicides, were left for a period of five, fifteen and thirty minutes, respectively. Then one loopful from each tube was mixed into a tube of acetic-agar and poured into a sterile Petri dish. These were incubated at 37 c. and observed at the end of twenty-four and forty-eight hours. The accompanying results are tabulated after the manner of Post and Nicoll,[1] whose tables appear in The Journal, lv, 1635.

In the case of argyrol, it is to be noted that our results are not in accord with those of others whose results we have reviewed. We have no explanation for this difference.

It has already been demonstrated by a number of laboratory workers that the killing power *in vitro* of the several silver preparations is weak or nil as compared with the action of silver nitrate.

It would seem superfluous to add another protest to the list were it not for the deep root this idea has taken that the silver preparations hold some peculiar power not possessed by silver nitrate in its various degrees of dilution.

The majority of these silver preparations seem to hold a peculiar innoxiousness which, along with their taking color in solution, play a part in urethral medication which fortunately interferes very little with Nature's efforts toward recovery. In fact, they have constituted a means of cleansing the surface, of dilating the urethral canal, and, in the case of the more irritating members of their large family, of causing mild and transient hyperemia, which is a real augment to Nature's plan.

For the privilege of subscribing to their use the dues are about fifty times larger than when an equally efficient dilution of silver nitrate is chosen. This is a consideration when supplying a large hospital.

Bellevue and Allied Hospital spent last year:

For silver nitrate	$ 108.00
for collargolum	25.00
For protargol	224.00
For argyrol	910.00
Total	$1,267.00

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[1] Post and Nicoll: The Comparative Efficiency of Some Common Germicides, The Journal A. M. A., Nov. 5, 1910, p. 1635.

To determine the power of penetration, Wildbolz,[2] of Bern, has done a series of experiments with silver nitrate and protargol on the living mucous membranes of the eye and urethra in dogs—a reduction of the silver being accomplished by exposure to a Finsen light. In the urethra he used 1:1000 to 1:100 silver nitrate and 1 per cent. to 3 per cent. protargol solutions. There was some penetration of the metal down to the subepithelial tissue. In penetrating power, the silver nitrate easily predominated.

NUMBER OF COLONIES IN ONE LOOPFUL TEST SOLUTION AFTER TWENTY-FOUR HOURS' INCUBATION

Solution		Organism	5 Min.	15 Min.	30 Min.
Argyrol......	30 per cent.	Strep.	0	0	0
"	30 per cent.	Staph.	0	0	0
"	30 per cent.	B. coli	0	0	0
"	30 per cent.	Gon.	70	50	10
"	10 per cent.	Strep.	4	0	0
"	10 per cent.	Staph.	0	0	0
"	10 per cent.	B. coli	0	0	0
"	10 per cent.	Gon.	90	70	50
"	1 per cent.	Strep.	50	35	35
"	1 per cent.	Staph.	100	75	100
"	1 per cent.	B. coli	1,500	500	100
"	1 per cent.	Gon.	120	50	25
Protargol....	10 per cent.	Strep.	25	20	20
"	10 per cent.	Staph.	100	1	75
"	10 per cent.	B. coli	0	0	0
"	10 per cent.	Gon.	30	15	25
"	5 per cent.	Strep.	49	31	26
"	5 per cent.	Staph.	150	50	50
"	5 per cent.	B. coli	0	100	25
"	5 per cent.	Gon.	90	50	25
"	1 per cent.	Strep.	48	44	29
"	1 per cent.	Staph.	∞	200	150
"	1 per cent.	B. coli	1,000	700	200
"	1 per cent.	Gon.	100	35	25
Silver nitrate..	2 per cent.	Strep.	0	0	0
"	2 per cent.	Staph.	0	0	0
"	2 per cent.	B. coli	0	0	0
"	2 per cent.	Gon.	0	0	0
"	1 per cent.	Strep.	6	5	0
"	1 per cent.	Staph.	0	0	0
"	1 per cent.	B. coli	10	15	50
"	1 per cent.	Gon.	0	0	0
"	½ per cent.	Strep.	10	8	0
"	½ per cent.	Staph.	0	0	0
"	½ per cent.	B. coli	100	36	10
"	½ per cent.	Gon.	0	0	0
"	1 to 1,000	Strep.	15	70	6
"	1 to 1,000	Staph.	7	14	5
"	1 to 1,000	B. coli	600	500	300
"	1 to 1,000	Gon.	0	0	0
"	1 to 5,000	Strep.	23	40	15
"	1 to 5,000	Staph.	10	6	3
"	1 to 5,000	B. coli	1,000	5,000	5,000
"	1 to 5,000	Gon.	0	0	0
"	1 to 10,000	Strep.	44	26	50
"	1 to 10,000	Staph.	22	5	3
"	1 to 10,000	B. coli	∞	∞	∞
"	1 to 10,000	Gon.	525	40	20
Cresol Comp..	10 per cent.	Strep.	0	0	0
"	10 per cent.	Staph.	0	0	0
"	10 per cent.	B. coli	0	0	0
"	10 per cent.	Gon.	0	0	0
"	5 per cent.	Strep.	0	0	0
"	5 per cent.	Staph.	0	0	0
"	5 per cent.	B. coli	0	0	0
"	5 per cent.	Gon.	0	0	0
"	2.5 per cent.	Strep.	0	0	0
"	2.5 per cent.	Staph.	5	0	0
"	2.5 per cent.	B. coli	0	0	0
"	2.5 per cent.	Gon.	0	0	0
"	1.2 per cent.	Strep.	0	0	0
"	1.2 per cent.	Staph.	4	0	0
"	1.2 per cent.	B. coli	200	0	0
"	1.2 per cent.	Gon.	550	300	0
"	0.5 per cent.	Strep.	3	0	0
"	0.5 per cent.	Staph.	8	0	0
"	0.5 per cent.	B. coli	∞	40	16
"	0.5 per cent.	Gon.	600	500	100
Collargolum..	2.5 per cent.	Strep.	15	8	0
"	2.5 per cent.	Staph.	15	1	0
"	2.5 per cent.	B. coli	0	0	0
"	2.5 per cent.	Gon.	80	100	15
"	1.25 per cent.	Strep.	25	12	10
"	1.25 per cent.	Staph.	∞	100	100
"	1.25 per cent.	B. coli	0	100	100
"	1.25 per cent.	Gon.	120	100	75
Cargentos....	20 per cent.	Strep.	0	0	0
"	20 per cent.	Staph.	7	0	0
"	20 per cent.	B. coli	0	0	0
"	20 per cent.	Gon.	18	10	0
"	5 per cent.	Strep.	28	20	15
"	5 per cent.	Staph.	50	2	20
"	5 per cent.	B. coli	0	0	0
"	5 per cent.	Gon.	75	0	50

As to the value of antiseptics penetrating below the surface: In order to check up the work of other experimenters, Derby,[3] of Boston, made a series of observations as follows: He took samples of sterile hydrocele fluid and bovine serum; to 1 c.c. of the serum he mixed 1 c.c. of the silver preparation to be tested and to this he exposed the staphylococcus. The nitrate of silver, 2 per cent., showed a growth of the organisms after an exposure of from thirty to forty minutes; the protargol, 8 per cent., after sixty minutes; the argyrol, 50 per cent., gave an abundant growth after three and one-half hours. Other preparations showed the same results.

This goes to show how completely the body fluids can destroy the bactericidal power of antiseptics when brought into contact with them, and how little advantage there can be in a drug having the power to penetrate below the surface.

HINTS FOR RADIOGRAPHERS

MAURICE A. WALKER, M.D.
DILLON, MONT.

It is usually necessary to make two exposures in different axes when radiographing injured or diseased parts, or suspected ones. This can be nicely accomplished by using a single plate. This applies particularly to the extremities, where most of such work is required.

After placing the plate in its envelopes, if using an 8 by 10 plate for instance, draw with a pencil on the face of the outside envelope, a line which will divide the contained plate into two equal parts, each of which will then measure 5 by 8 inches. Have at hand a piece of sheet lead about 10 by 6 inches and thick enough to be absolutely impervious to the rays—about 1/10 inch thick is what I use for this purpose. After the plate is in position under the part to be radiographed, using one-half of the plate, as indicated by the line mentioned, cover the other half of the plate with the sheet of lead, adjusting it accurately to the line on the envelope. Then make the exposure on the unprotected part of the plate.

Remove the lead to the other half, and adjust for the second exposure on the part of the plate not yet exposed. Make the second exposure in a direction transverse to the former, or in such direction as may be required by the case and its anatomy. Be sure that the two exposures are approximately equal in intensity, so that they will develop together. When the negative is finished, the complete record of the case is on a single plate, which is not only much more convenient than using separate plates, but also more economical.

It is also my practice to make all needed notes of the exposure, such as the date, initials or name of patient, direction of radiance, number of tube, its penetration, amount of current, distance of plate from target and length of exposure, on some unimportant part of the negative, with a soft lead-pencil. Thus the whole technic is indicated without more trouble, and is always at hand when examining the negative. If a print is made this will not often show, but then it is not required. The penciled words will usually not be visible until the negative is examined in such direction that the light is reflected from the graphite which has been deposited. Then the words become sufficiently plain to be easily read.

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[2] Wildbolz, H.: Experimentelle Untersuchungen über die Wirkung von Silber Nitrat und Protargollösungen auf labende Schleimhäute, Ztschr. f. Urol., 1907, pp. 185-200.

[3] Derby, G. S.: An Experimental Study of the Bactericidal Power of Various Silver Preparations, Boston Med. and Surg. Jour., 1906, clv, 341.

In indicating the direction of exposure, I do not write dorso-ventral, intero-external, etc., as is generally advised, but use only the word which describes the part next the sensitive film. This describes the exposure as accurately, and obviates all possible errors of understanding later. Except when radiographing parts containing only one bone and no joints, such as the middle thirds of the thigh or arm, it is not even necessary to write "right" or "left," as the anatomy of the part in connection with mention of the side next the plate, will enable the physician examining the negative to see which side is represented on the plate.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

ACIDOL.—Betainæ Hydrochloridum.—Betaine Hydrochloride.—Acidol, $C_5H_{11}NO_2.HCl$, is the hydrochloride of betaine.

It is prepared by the action of hydrochloric acid on betain.

Acidol consists of colorless crystals, freely soluble in water. It contains 23.8 per cent. absolute hydrochloric acid.

Actions and Uses.—In the dry state acidol does not split off hydrochloric acid at ordinary or high temperature, but when dissolved in water there is a gradual liberation of the acid. It therefore represents a very convenient method of administering hydrochloric acid.

It is used for the same purposes as hydrochloric acid.

Dosage.—0.5 Gm. (8 grains), which corresponds to about 1.1 Cc. (18 minims) of diluted hydrochloric acid U. S. P., to be taken dissolved in water.

Manufactured by the Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany (Farbenfabriken of Elberfeld Co., New York). Not patented. U. S. trademark No. 43,628.

Acidol Tablets, 8 grains.—Each tablet contains acidol 0.5 Gm. (8 grains).

Acidol Pepsin Tablets, Mild.—Each tablet contains pepsin 0.2 Gm. (3 grains) and acidol 0.05 Gm. (1 grain). U. S. patent No. 806,615 (Dec. 5, 1905; expires 1922).

Acidol Pepsin Tablets, Strong.—Each tablet contains pepsin 0.1 Gm. (1½ grain) and acidol 0.4 Gm. (6 grains). U. S. patent No. 806,615 (Dec. 5, 1905; expires 1922).

HEGONON.—Silver nitrate ammonia albumose.—Hegonon is a substance obtained by treating silver ammonium nitrate with albumose, said to contain approximately 7 per cent. of organically combined silver.

It is a light brown powder readily soluble in water. Its aqueous solutions do not coagulate albumin, even on heating, nor are they precipitated by sodium chloride.

Actions and Uses.—The pharmacologic action of Hegonon is similar to that of other protein silver preparations. Hegonon is used as a substitute for silver nitrate.

Dosage.—It can be used in concentrations of from 1 to 6,000 to 1 to 2,000 for irrigation. Urethral injections of ¼ per cent. are recommended.

Manufactured by the Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent and trade-mark applied for.

CYPRESS OIL—Oleum cupressi.—An oil distilled from the leaves and young branches of *Cupressus sempervirens L.*

Cypress oil is a yellowish liquid with a pleasant odor suggesting cypress. After evaporation it leaves an odor that reminds one of labdanum or amber. Its specific gravity is 0.88 to 0.89 and its specific rotation + 4° to + 14°. The oil is soluble in 4 to 5 parts of 90 per cent. alcohol.

Cypress oil consists chiefly of terpenes, principally d-pinene; sylvestrene and sesquiterpenes appear also to be present. The oil contains small amount of esters and occasionally a substance which appears to be an optically inactive modification of cedrol.

Actions and Uses.—Cypress Oil is said to be useful by inhalation for the relief of whooping-cough.

Dosage.—The oil should be diluted with 5 parts of alcohol and 15 Cc. (½ ounce) of the mixture sprinkled three to four times daily over the coverlet, pillow and underwear of the child. The application may be repeated once or twice during the night, if recurring attacks are unusually severe.

Non-Proprietary Preparation:

Oil of Cypress.—Schimmel & Co.

Manufactured by Schimmel & Co., Miltitz near Leipsic, Germany (Fritzsche Bros., New York). No patent or trade-mark.

Therapeutics

HICCUP: SINGULTUS

Like some other symptoms, hiccup or singultus, while not to be distinguished as a distinct disease, nevertheless sometimes becomes of sufficient importance to merit individual consideration. The phenomenon consists of a spasmodic contraction of the diaphragm accompanied by a characteristic noise caused by the impact of the incoming air against a closed, partially closed, or at least not fully opened glottis. In normal respiration, coincident with the descent of the diaphragm there is an opening of the glottis through the contraction of the crico-arytenoid muscle. This opening does not occur when there is hiccup. Many believe that accompanying the spasmodic contraction of the diaphragm, there is also a spasmodic closure of the glottis, but this has not been definitely determined. The motor impulse which gives rise to the spasm of the diaphragm arises in the medulla and is transmitted through the phrenic nerve. This impulse may be caused reflexly by any irritation in the course of the pneumogastric nerve, especially in the stomach or the abdominal viscera. Irregular contraction of the diaphragm may also be aroused by pressure on the phrenic or pneumogastric nerves in the chest by tumors, aneurysms, etc.

Most cases in which hiccup is a prominent feature may be divided into several more or less distinct classes. The first class may be distinguished as acute, transient hiccup, and includes a very great proportion of all cases in which the symptom is observed. It occurs most commonly in infants and children, and usually does not last more than a few minutes. It is generally associated with some disturbance of the digestive organs, either from overfilling of the stomach, or from the ingestion of food which is indigestible, or to the accumulation in the stomach of gas which has been produced by fermentation, or to the accumulation of air which has been swallowed. These simple cases are generally easily benefited by simple measures of treatment.

When a baby begins to hiccup, it is often given granulated sugar, and many times with good result. Or a teaspoonful of plain water, or of water with anise or peppermint, any of which may be successful. An older child may be made to hold his breath for a portion of a minute, or to drink rapidly a glass of water, either of which methods may hold the diaphragm quiet long enough to overcome the tendency to spasm. Adults can hold the breath longer, and frequently this will bring about a cessation of the hiccup.

Sometimes provoking sneezing will stop the hiccup. Also, if a patient is well and strong, any slow muscular effort, as lifting a weight, or especially pulling the body several times up by the hands holding onto any trapeze arrangement, is often successful.

If these simple measures do not afford relief, and the stomach is overloaded, an emetic, as ipecac, may be administered. If the symptoms do not seem to be sufficiently severe to demand such heroic treatment, a carminative, such as a few drops of the spirit of peppermint with the addition of a little soda, or 20 drops of the aromatic spirit of ammonia, will often afford relief. As preventive treatment, any indigestion should, if possible, be corrected, and constipation should be treated.

In the second class may be grouped those cases in which the motor impulse giving rise to the spasm is excited by a central irritation which may be brought to the medulla through the blood. Here belong the cases of hiccup arising in patients suffering with diabetes or with uremia in chronic nephritis. In this same class probably belongs the hiccup occurring in patients who are seriously ill with typhoid fever and in sunstroke; and here perhaps, also, should be classed those cases in which hiccup occurs as a symptom of hysteria or other functional nervous disease.

When uremia is the agent which is causing the hiccup, treatment by hot-air baths will often prove efficacious by dilating the peripheral circulation, promoting elimination through the skin, and allowing the kidneys to resume their function.

In the third class may be included those more serious cases in which hiccup is a most distressing symptom, and in which by its obstinate persistence, if unrelieved, it often hastens or precipitates a fatal result. In this class are included a large variety of abdominal troubles: among them may be enumerated inflammation of the bowels due to a perforation of any abdominal viscus and especially of an ulcerating appendix; any obstruction to the function of the intestine, such as paresis of the muscular coat of the intestine, obstruction by a mass of fecal matter which it is impossible to propel through the nal, obstruction by intussusception or volvulus, or by nds of cicatricial tissue on the outside of the intestine strangulation of a hernia; inflammation of the liver and of the gall-bladder, especially when complicated by gall-stones; inflammation of the pancreas; and cystitis. Arteriosclerosis, by causing degeneration of the arteries in the neighborhood of the origin of the phrenic nerve, may cause hiccup. A fractured rib may also cause obstinate hiccup. In such cases as these hiccup is often a most obstinate and dangerous symptom, and a great variety of remedial measures may have to be tried before the hiccup is stopped, even if it is possible to stop it.

At first, certain external remedies may be tried; the easiest and simplest is a large mustard plaster applied to the epigastrium. If there is much distention of the abdomen from gas in the intestines, turpentine stupes may be applied. Often an enema containing turpentine will be found useful. Sometimes pressure on the phrenic nerve where it passes over the scalenus anticus muscle will prove effective. Pressing three fingers of each hand on each side of the trachea and larynx, with the thumbs on the back of the neck, so as to compress the phrenic and pneumogastric nerves has sometimes proved effective. The application of a counter-irritant, such as a mustard paste, to the back of the neck, or spraying this region with ether is sometimes useful.

A great variety of antispasmodic medicines have been employed with varying degrees of success. In some cases a hypodermatic injection of morphin and atropin will stop the spasm, or atropin sulphate, in a dose of $^1/_{150}$ of a grain may be given alone, hypodermatically, and repeated two or three times a day, if needed. In individual cases there may be objection to using this remedy on account of the danger of masking the symptoms and obscuring the diagnosis. The spirit of camphor and the spirit of chloroform may often be given with advantage, and they may be combined with the compound tincture of lavender. These are especially useful when the nervous element predominates and when there is no severe organic difficulty.

One of the most useful drugs in controlling convulsive action of the muscles is chloral, and many obstinate cases of hiccup are relieved by this drug. It may be administered in a dose of 1 gm. (15 grains), and repeated, if necessary, in two hours.

Gelsemium has been highly praised by some practitioners. This drug is believed to diminish spasmodic irritability of the muscles by action on the nerve centers. It also depresses the respiratory center, which obviously is affected when this symptom is present. It acts quickly, its full effect being obtained in an hour, and the effect commencing to pass away in three hours. A reliable preparation should be prescribed, and the fluidextract may be given in doses of 3 or 4 drops, repeated every three or four hours, or the tincture may be given in a dose of 15 or 20 drops, repeated every four hours.

Nitroglycerin, in doses of $^1/_{100}$ of a grain, repeated every hour or every two hours, is beneficial in some cases. Occasionally the inhalation of a few drops of nitrite of amyl will produce quick relief. Musk is highly recommended by some writers. Scopolamin hydrobromid, in a dose of $^1/_{200}$ of a grain, may be given by the mouth or hypodermatically, and repeated, if needed.

Sometimes chloroform to partial or complete anesthesia must be administered to check the spasmodic contraction of the diaphragm, and in some cases the hiccup will not recur.

In some cases, confining forcibly the movements of the ribs, either by straps of adhesive plaster applied around the lower part of the chest or by a bandage tightly pinned around, will afford relief by diminishing the extent of the movement of the diaphragm.

The state of the bowels should always be inquired into, and if constipation is present, its cause must be determined. Especially is it important to examine the abdomen for the presence of hernia. A small femoral or inguinal hernia may easily escape a superficial examination, and may give hiccup as an early symptom, and later cause obstruction of the intestines, which can, in some cases, at this early period be easily relieved by reduction of the hernia. It is important to secure action of the bowels in most cases of hiccup to remove any collection which may set up irritation or which may be giving rise to any toxemia.

Double Congenital Club-Hand with Absence of Radii.—A case of double congenital club-hand of the radiopalmar variety, with absence of radius on both sides, is recorded by A. H. Tubby (*Proc. Roy. Soc. Med.*, May, 1911). The case was unusual, inasmuch as the development of the metacarpal bones and phalanges appeared to be perfect. The ulna was curved and greatly thickened, especially toward its lower end. In this case and two similar ones, Tubby operated by splitting the ulna vertically up about the lower two-thirds, drawing outward the outer fragment and fixing its lower end with silkworm-gut to the outer part of the carpus. The effect was to steady the wrist and hand and to increase their range of flexion and extension. Pronation and supination could not be restored.

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[*For other information see second page following reading matter*]

SATURDAY, JULY 29, 1911

PROTEIN FEVER

Attention was recently called in these columns[1] to the growing belief that many of the features of infectious diseases are, in all probability, anaphylactic in character, and result from the liberation in the body of toxic cleavage products split from bacterial proteid by ferment action. Striking confirmation of this view is afforded by recent work by Vaughan and his colleagues[2] on the so-called "protein fever." This phenomenon—the production of heightened temperature by the parenteral introduction into the body of proteid material—is not of recent observation, although its correct interpretation has long been obscure. So the postoperative rise of temperature following aseptic surgical work is probably of this character, and Vaughan believes that "hay-fever" or "rose-fever" is simply the result of reaction of the body to the vegetable proteids absorbed through the respiratory mucosa.

Although the two examples just cited are, comparatively speaking, not dangerous, he was able in animals to produce disease of grave and even fatal character, by the proper administration of the foreign material. Thus in rabbits the repeated injection of small quantities of white of egg caused fevers closely resembling typhoid in type, while by varying the frequency and size of dosage, remittent and intermittent fevers could be produced. The general character of the process was shown by the fact that besides white of egg, laked foreign corpuscles and vegetable proteids likewise caused fever when introduced by other than intestinal channels.

Vaughan concludes that the great majority of fevers originate in this way, the foreign proteid in most cases being the small, but constantly maintained, quantity of bacterial matter lodged in the body during an infection. The ferments by which the toxic cleavage products are liberated he considers to be of two sorts: the one normally present and of only limited specificity, the other resulting from the stimulation of certain tissue cells by the deposition in them of the proteid when this occurs in quantities too great for the small quantity of the more general ferment to destroy. The localization of an infection, according to this view, depends largely on the predilection of the proteid for some particular tissue—that of the pneumococcus for the lungs, of typhoid for the mesenteric and other lymph-nodes, etc.

The actual causation of fever, he believes, is due to three factors operating in varying degrees—the unaccustomed stimulation of cellular activity by the foreign material, the heat liberated by the cleavage of this material, and the reaction between the products of this cleavage and the tissues. From the minute quantities of proteid that suffice to produce pyrexia, it is probable that the second factor is for the most part negligible, and that the other two are mainly instrumental in the cause of fever.

AN EFFICIENT BOARD OF HEALTH

We have previously commented favorably on the work of the Montclair (N. J.) Board of Health. The Sixteenth Annual Report of the Board recently issued is worthy of its immediate predecessors, and deserves wide circulation. It shows what can be accomplished by a progressive and well-informed board of health even with a modest, regular annual appropriation of $5,000 (for a population of about 22,000). Chemical and bacteriologic work is carried on, vital statistics are carefully collected and recorded, inspection of certain sources of food-supply is frequent and evidently thorough, and outbreaks of communicable disease are carefully investigated.

Especially does the supervision of the milk-supply seem to have reached a high degree of efficiency. As in previous reports, a complete survey of the milk situation is given and the merits and demerits of the different milk dealers and sources of supply are discussed with the fullest frankness. Dairies are rated according to the plan adopted by the U. S. Bureau of Animal Industry and the comparative ratings for both equipment and methods are published in full. The bacterial counts are also given, and altogether the data supplied furnish the physicians and other interested citizens of Montclair with a good basis for forming a judgment as to the purity and wholesomeness of the individual milk-supplies. The outspoken methods employed are shown by the following excerpts:

> "*Borden's Condensed Milk Company:* This supply has already been referred to in connection with the refusal of this company to have its herds tested for tuberculosis. We have no criticism to make as to the manner in which the Borden Company handles the milk after it comes into its possession. . . . Before the milk is received by the Borden Company, however, it is not handled under such favorable conditions. The milk is not from tested cattle, proper care and cleanliness are not enforced at the time of milking and the milk is not properly cooled."
>
> "*Canfield, M. H.:* This supply was uniformly high in bacterial count and steps will be taken to exclude it from the town unless improvement is shown."

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1. Infection and Anaphylaxis, THE JOURNAL A. M. A., March 11, 1911, p. 746.
2. THE JOURNAL A. M. A., Aug. 21, 1909, p. 629; Ztschr. f. Immunitätsforsch., 1911, ix, 458

"*Croot Bros.:* This supply was from an excellent dairy, but owing to careless handling the bacterial counts were excessive."

It is by publicity of this sort as well as by inspection and instruction that really noteworthy results have been reached. The average bacterial count of all the milk sold in Montclair in 1910 was only 46,000. Two dairies throughout the year delivered milk with a maximum bacterial count of less than 20,000. One dairy reduced its average from 80,000 in 1909, to 9,700 in 1910. Conditions like this are naturally not reached all at once, but are the result of persistent endeavor extending over several years. Montclair is certainly to be congratulated on possessing so efficient a board of health.

THE INTERNATIONAL PLAGUE CONFERENCE

The International Plague Conference called together by the Chinese government after the outbreak of the plague in serious proportions in that country, has made to that government an interim report which includes a summary of the evidence collected by the commission and a series of resolutions and recommendations approved by the conference; but this report will not be made public until the full report of the conference is issued. From the news accounts of the discussions already published, however, the work and the conclusions of the conference may be briefly summarized.

No types of plague were found other than the pneumonic or the combined pneumonic and septicemic, and this is a point of great interest in this epidemic. The other great epidemics have been mostly of the bubonic form. The theory that the plague originated from infected tarabagans, a species of marmot, a fur-bearing animal of the squirrel family, has been accepted as probably the correct one. That this animal is extremely susceptible to plague was shown by the American delegates. It has also been found that this animal suffers from a form of subacute or chronic plague, and this probably explains why the plague is endemic in Northern China. Neither rats nor other animals besides the tarabagan were found to be largely affected with the plague, only one rat having been found to be infected in upward of 30,000 rodents examined by the Chinese and Japanese. One dog was said to have died from plague at Dalny, and there were circumstantial accounts of mules having been infected. The plague promptly subsided when attacked in earnest and the chief factor in its eradication appears to have been the drastic preventive measures taken by the Russian, Japanese and Chinese authorities, although climatic and other natural influences may have contributed to this result. That there was no decrease in the virulence of the bacillus during the later stages of the epidemic seems to have been conclusively demonstrated. Even in the small villages and hamlets the inhabitants were frightened by the fatality of the disease into taking crude but effectual precautions.

It was almost conclusively demonstrated also, that the disease was introduced into every new center by the arrival of persons actually suffering from plague or incubating the disease. That pneumonic plague can be carried by clothing or merchandise or by vermin was not proved and the direct human factor in its transmission seemed to be the chief one. Experiments undertaken by the American and Japanese delegates seemed to prove conclusively that the breath of the sufferer was not infective apart from particles of sputum expelled by coughing or possibly by forcible speaking. The sputum, however, was shown to be infective as long as it remained moist or frozen, and it is believed that dust can carry infection only by acting as the medium for small particles of moist or frozen sputum, and houses are probably not infective apart from the presence of such infective sputum. It has been determined that the incubation period varies from two to seven days, but is usually three to five days. The pulse was regarded by some as the earliest diagnostic sign; by others, including the Russian delegate, Zabolotny, the temperature was relied on. The absence of marked physical signs in the chest during the early stages was notable, and rendered diagnosis difficult. Less than five recoveries were recorded.

The value of plague vaccines and serums during a pneumonic epidemic was thought to be doubtful, although this feature developed considerable difference of opinion among the delegates. It was suggested that attenuated living cultures of the bacillus might be used for protective inoculation, but this was condemned by some as being too dangerous and therefore unjustifiable.

Two facts seem to stand out prominently from the work of the conference, and these are that the human host is the most important factor in the spread of the infection, and that rather close contact is a necessary element. This is in line with the knowledge that is now becoming more clearly established in regard to other epidemic and infectious diseases, and is the most important point to be taken into consideration in dealing effectually with them. Even the possibility of immune carriers was demonstrated in at least one instance in this epidemic, and this is in line also with our growing knowledge of the infections.

In connection with the present perfection of laboratory methods in the study of diseases, especially of the infectious diseases, the conference plan of reaching results in a large way in diseases that menace large populations is a marvelously quick and efficient one. This conference, along with the other important international conferences of recent years, is a distinct step forward in the control or elimination of deadly world-epidemics.

It is gratifying for Americans to note that in this important conference the delegates from this country, Drs. Strong and Teague, took a most prominent, if not the leading part.

Current Comment

EDITORIAL ESTIMATES OF DR. WILEY

One of the most striking results of the effort to remove Dr. Wiley has been the unanimity and vigor with which the daily newspapers of the country have denounced the attacks of his enemies. Almost without exception, the press has recognized that the charges preferred against him were largely technical and were trumped up simply to afford a pretext for his removal. The influences of the interests concerned in this attack have been clearly recognized. The Providence (R. I.) *Evening Tribune* says:

> That there is a conspiracy to oust Dr. Wiley is indisputable. It has made itself visible for a long time past, both outside and inside the Department of Agriculture. It has been carried on with venomous persistence by those poisoners of the stomachs of the people whom he has hunted down and exposed, those manufacturers of fraudulent foods and compounders of misbranded drugs who hope to slide back into their old enormously profitable evil practices when Dr. Wiley is out of office. It is they who have uncovered this technical offense on his part and the animus and purpose of the charges they make against him are entirely clear.

The Burlington (Vt.) *News* is particularly outspoken:

> The plunderers and poisoners of the people are determined to get Wiley out of their way so that they can go on unrestricted in making money out of poisons. Dr. Wiley has done a remarkable work in his fight against food and drink poisons. He practically alone was responsible for the rigid law against placing any deleterious substance in the foods and drinks of the people.

The Wheeling (W. Va.) *Intelligence* recognizes the animus behind the attack:

> Dr. Wiley's efforts have driven adulterators and food poisoners out of business. This is a great and splendid work. Naturally a man engaged in such a work will arouse antagonism and his enemies will discredit him if possible.

The Buffalo (N. Y.) *Enquirer* endorses Dr. Wiley as the protector of the people:

> Pure food and drug laws amount to nothing without a man of the stamp of Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, to enforce them. Dr. Wiley has done much to reduce the sale of adulterated foods and drugs. That work has been good for the consumer, although it has seriously interfered with the business of the adulterators. The latter naturally do not like Dr. Wiley. The former love him and will not quickly forgive unfair treatment of him. . . . The people will stand by themselves if they stand by Wiley. He is the man who has made the goods match the label. He is protecting the people from fraud, much of it worse than the fraud which merely cheats the purchaser out of money. The enmity he has aroused is his glory. The hatred of crooked manufacturers is proof of his efficiency.

The Providence (R. I.) *Journal* says:

> Popular judgment is not infallible, to be sure. It is too often based on mistaken premises. But it is a sound instinct which leads both Congress and the people to believe that the present situation has been brought about, in the last analysis, by resentment over Dr. Wiley's services in behalf of public health.

The above are samples of the editorial comments from all over the country. They show plainly that neither the press nor the people are disposed to tolerate the dismissal of a faithful and valuable public servant on a trumped-up, technical charge. They recognize the influences which, secretly and underhandedly, have been at work for years for the overthrow of the one man who stood between the dishonest manufacturer and the public. It is impossible to believe that the president will approve the findings of Attorney-General Wickersham, since, whatever may be the nature of the technical offense charged, it must be fully evident to President Taft that the great American public will not for a moment approve of the removal on a mere technicality of an honest official who stands in the public eye as the champion of the pure food law and the protector of the people's rights.

NEW PRESERVING MEDIUM

What promises to be of useful application for museums and demonstration purposes is a solution invented by Wickerschener, of the Berlin Zoologic Museum, for fixing and preserving plants and animals in their natural colors. The solution is prepared by dissolving in 3 liters of boiling water 100 grams of alum, 25 of sodium chlorid, 12 of potassium nitrate, 60 of potassium carbonate, and 10 of arsenious acid. To this 1,200 c.c. of glycerin and 300 c.c. of methyl alcohol are added. Objects preserved in this liquid are said to retain their form, color and suppleness to a remarkable degree. Even after a considerable lapse of time muscle tissue retains its fresh appearance, and can be cut as in the fresh state, and ligaments remain perfectly pliable, permitting the demonstration of movements as in life. This solution differs materially from the Kaiserling fluid, although both contain potassium salts. The composition of Kaiserling's fluid is: potassium nitrate, 10; potassium acetate, 30; liquor formaldehydi, 750; distilled water to make 1,000.

THE CHOLERA SITUATION

Notwithstanding the somewhat alarming headlines in the newspapers, regarding the presence of Asiatic cholera in the United States, there is no cause for alarm. In the first place, those in charge of the quarantine stations are thoroughly alive to their responsibility, and, consequently, there is little fear of many cases coming to this country. In addition to the usual methods for preventing those suffering with infectious diseases from landing in this country, the United States Public Health and Marine-Hospital Service has made additional regulations for the present conditions, in that all steerage passengers arriving from ports that are likely to be infected with cholera are subjected to bacteriologic examination and detention until such examination proves that they are not cholera bacillus carriers. The period of observation has also been extended from five to ten days. It should be remembered, further, that medical science has so advanced that even though the epidemic did obtain a foothold in this country, it could easily be controlled, and the individual cases managed much better than would have been the case twenty-five years ago. To repeat, there is no cause whatever for alarm.

Medical News

ILLINOIS

New Alienist Appointed.—Governor Deneen is said to have accepted the resignation of Dr. J. L. Greene, Springfield, alienist on the State Board of Administration and to have appointed as his successor, Dr. Frank P. Norbury, whose resignation from the position of superintendent of the Kankakee State Hospital was noted in THE JOURNAL, July 22. It is announced that Dr. Greene has been offered the position of superintendent of the Arkansas State Hospital, Little Rock.

Personal.—Dr. Maurice A. Bernstein, senior physician of the Oak Forest Infirmary, has resigned.——In a collision with an electric car, July 20, the automobile of Dr. Fremont C. Knight, Waukegan, was demolished, but Dr. Knight received only slight injury.——Dr. John C. Foley, Waukegan, was knocked down by his automobile and suffered a fracture of the clavicle.——Dr. Henry Ward Clifton, Macomb, has moved to Lacon.——Dr. Ferris F. Tannus, Bloomington, has sailed for Europe.——Dr. David E. Yantis has been appointed physician of the Illinois Traction System at Urbana.——Dr. James A. Flautt, who has been seriously ill at his home in Otterville, is reported to be convalescent.

Chicago

Personal.—Dr. and Mrs. Lewis L. McArthur and Dr. and Mrs. Arthur Dean Bevan sailed for Europe, July 19.——Dr. and Mrs. Wesley John Woolston, Geneva, Ill., have sailed for Europe.——Dr. Clara Pauline Seippel has qualified as assistant city physician, and will assume her duties August 9.

Asked to Report Diarrheal Diseases.—Dr. George B. Young, Commissioner of Health, requests that physicians report all cases of diarrheal diseases on the postal cards furnished by the department. This has an especial significance on account of the outbreak of cholera among immigrants at New York City. While the department is confident that the national and local authorities are taking every precaution, including the bacterial examination of discharges of every one coming from cholera-infected ports, it behooves the local profession, especially those who practice among Italians, to take special precautions.

INDIANA

State Treatment of Rabies.—The State Board of Health on July 10, began the treatment of the first person who appealed for aid under the new law which provides for the treatment of indigent persons afflicted with rabies.

State Hospital for Tuberculosis.—The secretary of the State Board of Health has issued a circular letter to physicians urging them to make use of the State Hospital for Tuberculosis, Rockville, which was opened April 1, but to which only a few patients have thus far applied for admission.

State Board Changes.—Dr. John R. Hicks, Covington, has been appointed a member of the State Board of Health to succeed Dr. George T. MacCoy, Columbus, term expired; Dr. William Niles Wishard, Indianapolis, president of the board, has resigned; Dr. T. Henry Davis, Richmond, has been reappointed a member and Dr. James S. Boyers, Decatur, has been appointed as successor to Dr. Wishard.

New Dean at Indiana University School of Medicine.—Dr. Burton D. Myers, secretary of the Indiana University School of Medicine, writes that Dr. Charles P. Emerson has been appointed by the trustees as dean of that medical school. It is stated that Dr. Emerson will enter on his teaching and executive duties at the beginning of the fall term. The arrangement provides that he may do a limited consultation practice so long as that does not encroach on his college duties. Dr. Emerson will reside in Indianapolis.

Personal.—Dr. Jacob R. Etter, Crawfordsville, has been designated as surgeon general of the Uniform Rank of Odd Fellows of the World.——Dr. Charles A. Stafford, Indianapolis, is seriously ill on account of cerebral hemorrhage.——Dr. E. A. Carlson has been appointed secretary of the board of health of Madison, vice Dr. Jefferson Cooperider, deceased.——Dr. Orange G. Pfaff, Indianapolis, who has been seriously ill with septicemia, has recovered.——Dr. Urban A. Lyle has resigned from the board of health of Lafayette.——Dr. Aldine E. Morgan has been appointed chief surgeon of the Soldiers' Home of Lafayette.——Dr. Harry H. Smith, Jeffersonville, has resigned as physician to the Indiana State Reformatory to accept the position of chief surgeon for the American Rolling Mill Company at Middletown, O., and will be succeeded in August by Dr. James H. Walker, Henryville.——Dr. Summer A. Furniss, Indianapolis, was burned painfully on the hands and forearms, July 14, by the ignition of gasoline which was being poured into the tank of his automobile.

IOWA

Personal.—Dr. Albert De Bey, Orange City, has been elected president of the State Board of Medical Examiners, and Dr. Bert L. Eiker, president of the State Board of Health.——Dr. Guilford H. Sumner, Waterloo, has been reelected secretary of the State Board of Health.——Lieut. Horace Lee Husted, M. C. N. G., Iowa, Muscatine, has resigned.——Dr. George A Smith, Clinton, has been appointed a member of the S Board of Health, vice Dr. George Edward Decker, Davenp resigned.——Dr. George W. Coit, Missouri Valley, announces that he has decided to retire.— Dr. Frederick Pomeroy Lord, Iowa City, has resigned fr the faculty of the state university to become professor anatomy in Dartmouth Medical School, Hanover, N. H.

Medical Societies Elect.—At the fifty-second annual meeting of the Iowa Union Medical Society, held at Cedar Rapids, July 12, the following officers were elected: president, Dr. David C. Brockman, Ottumwa; vice-president, Dr. William Harding, Solon; secretary, Dr. Frederick G. Murray, Cedar Rapids (reelected); treasurer, Dr. George P. Carpenter, Cedar Rapids (reelected), and censors, Drs. Laurence W. Littig, Iowa City; Frederick Cecil Skinner, Le Claire (reelected), and William Edward Owen, Cedar Rapids.——The Austin Flint Medical Society at its annual meeting held in Clear Lake, July 11-12, elected the following officers: president, Dr. Joseph Clinton Powers, Hampton; vice-president, Dr. Elmer E. Dunkelberg, Waterloo; secretary, Dr. Charles Freeman Starr, Mason City, and treasurer, Dr. Will L. Hearst, Cedar Falls. Waterloo was selected as the next meeting place.——Des Moines Valley Medical Society at its fortieth annual meeting held in Ottumwa, elected the following officers: president, Dr. Alfred Oscar Williams, Ottumwa; vice-presidents, Drs. William W. Eastburn, Sigourney, and Samuel K. Davis, Libertyville; secretary-treasurer, Dr. Fred W. Bowles, Ottumwa, and censors, Drs. Henry A. Leipziger, Burlington; Charles Stephen James, Centerville, and Charles B. Taylor, What Cheer.——At the annual meeting of Jones County Medical Association, held in Anamosa, Dr. Aram G. Hejinian, Anamosa, was reelected president; Dr. Aileen B. Corbit, Wyoming, was reelected vice-president, and Dr. Thomas M. Redmond, Monticello, was elected secretary and treasurer.

MARYLAND

Reception to Governor and Staff.—Following a review of the Maryland National Guard, a reception was given to the governor and the staff, July 18, by Dr. Charles H. Conley, Adamstown.

Society Entertained.—The members of the Baltimore Medical Society were the guests of Drs. Frank Eldred and G. Carville McCormick, Baltimore, at a crab feast at Penwood Grove, July 19.

Hospital Building Planned.—The Washington County Hospital Association has bought Kee Mar College, Hagerstown, and will convert it into a hospital at an expense of about $60.000. The idea of building a hospital on the farm recently purchased in the suburbs of the city has been abandoned and the farm will probably be sold.

Portrait of Old Physician.—The committee of the Baltimore Medical Society consisting of Drs. William Tarun, Baltimore; Dr. James Gorsuch, Fork, and Dr. L. Gibbons Smart, Lutherville, have sent a circular letter to members of the society asking subscriptions to procure the portrait of Dr. James H. Jarrett, Towson, who graduated from the University of Maryland, fifty-seven years ago. The portrait is to cost about $250 and is to be deposited in the hall of the Medical and Chirurgical Faculty of Maryland.

Baltimore

Nurses' Home.—A building for the nurses in connection with the Hospital for the Women of Maryland is to be built at an expense of about $12,000.

Personal.—Dr. James S. Brotherhood has been appointed resident physician. Dr. Willis D. Gatch, resident surgeon, and Dr. Roger Sylvester Morris, associate professor of medicine in Washington University, St. Louis.——Dr. Carey B. Gamble, Baltimore, has sailed for Europe.——Dr. George Heller, who has been ill for a long while, is convalescent.——Dr. Harry Wilbur Stoner is seriously ill with an infection of the hand. ——Drs. Richard Holden Follis and William Alexander Fisher have returned from Europe.

MASSACHUSETTS

Cholera in Boston.—A case of Asiatic cholera is reported to have occurred in Boston. The victim was a boardinghouse keeper, who took into her house as lodgers two sailors who it is said had recently arrived on a steamship from an Italian port. The patient died July 7. The relatives of the deceased are under observation at the Quarantine Hospital and the board of health has begun the work of examining all individuals who may have come into contact with the dead woman. The two sailors have disappeared and their whereabouts are unknown.

Infants' Hospital.—The Rotch Memorial Infants' Hospital on the grounds of the Harvard Medical School is nearly completed. The building has a frontage of 120 feet and is three stories in height. On the first floor are the reception room, modern nursery, dining room, food room, room for medical supplies, modifying and refrigerating rooms and room for graduated nurses and medical directors. On the second floor are two wards accommodating twenty-two patients, a lecture room, a surgical ward and an operating room. On the third floor are six private rooms for patients and rooms for the nurses and maids.

MICHIGAN

Bequests.—By the will of the late Charles S. Chase $100,000 is bequeathed to the Harper Hospital, Detroit. The income is to be used for the establishment of free beds and for the offering of prizes for research work looking toward the cure of cancer. It is to be called the Chase Fund in memory of the father, mother and brother of the deceased.

Michiganaw Society Organized.—The first annual reunion of the Michiganaw Association, composed of members of the faculties and graduates of the Michigan College of Medicine and Surgery and the Saginaw Valley Medical College, was held in Detroit, July 12-14. The association has a membership of about 600. Dr. John G. Kirker was elected president; Dr. Vine Larue Smith, vice-president; Dr. Martin V. Meddaugh, secretary, and Dr. Berthold Bertram, treasurer, all of Detroit.

Sanatorium Trustees Meet.—The annual meeting of the board of trustees of the Michigan State Sanatorium for Tuberculosis, Howell, was held July 11. The superintendent announced that twenty-five more patients can be accommodated in the new buildings now available and an appropriation has been granted by the legislature for additional buildings. J. A. Heath, Richmond, was elected president; Dr. Wilbert B. Hinsdale, Ann Arbor, secretary, and G. W. Teeples, Pinckney, treasurer.

Personal.—Dr. Edward Thomas Abrams, Hancock, has been appointed a member of the state board of health, vice George S. Harrington, Kalamazoo.——Dr. Kenneth Kilbourn, Detroit, fell down the companionway of a steamer, while crossing the Straits of Mackinac, July 7, and sustained severe injury to the spine.——Dr. Francis J. W. Maguire, Detroit, has been severely ill with septicemia, due to an operation wound.——Dr. Herbert W. Yemans, Detroit, has been appointed a delegate to the Esperanto Congress to be held in Antwerp, August 20-21. Dr. Yemans was given a banquet by the Detroit Esperanto Club July 15.——Dr. James C. McGregor, Flint, was operated on for appendicitis at Los Angeles recently.——Dr. Ralph E. Balch, Kalamazoo, who has been seriously ill with septicemia, is reported to be improving.

NEW YORK

Personal.—In a head-on collision between two automobiles near Middletown, July 14, Dr. Lillian Morgan of that city and Dr. Herman Mendolwitz, Brooklyn, were severely cut and bruised.

Inebriate Hospitals.—The governor has signed a bill authorizing the establishment of hospitals and industrial colonies for the care, treatment and occupation of inebriates by cities of the first and second class. The government of such hospitals is to be in charge of a board of inebriety consisting of seven members who are to serve without compensation. The new law makes numerous changes in the penal law in regard to the question of intoxication, one of the principal amendments being to put inebriates under the supervision of the board of inebriety under certain conditions and restrictions.

Cholera Laboratory for the Port.—At the direction of Governor Dix a fully equipped state bacteriologic laboratory is being established at the port of New York. Dr. William Seagrove Magill, director of the State Hygienic Laboratory, and three assistants have been detailed to take charge of this laboratory.

New York City

Personal.—Dr. and Mrs. George Montague Swift, Dr. and Mrs. Philip Embury, Dr. John Van Der Poel, Dr. and Mrs. Frederic Grosvenor Goodridge of New York and Dr. Henry Holdich Morton of Brooklyn have left for Europe.

New Seaside Hospital for Babies.—A new hospital to accommodate 184 patients has been opened at Surf Avenue and Twenty-Second Street, Coney Island. The building was erected under the auspices of the Children's Aid Society of Brooklyn.

Hospital Donated to Poughkeepsie.—Mrs. Samuel W. Bowne of New York City has presented $50,000 for a tuberculosis hospital for the city of Poughkeepsie. The city has already started the erection of a tuberculosis hospital and Mrs. Bowne's gift will tend to make the institution one of the most complete in the state.

Bequests.—The will of the late Mrs. May Cossitt Dodge contains among other bequests the following: the Lincoln Hospital, $25,000, and Adirondack Cottage Sanitarium at Saranac Lake, $10,000.——The will of the late Mr. Abraham Abrahams of Brooklyn bequeathes $50,000 to the Jewish Hospital of that city, the income of which is to be applied to the maintenance of the institution.

Decrease in Infant Death-Rate Continues.—The health department reports that for the week ended July 22 there were 344 deaths from all causes of infants under 1 year of age, as compared with 523 for the corresponding week of 1910. During the same week there were 157 deaths from diarrheal diseases compared with 323 for the corresponding week of 1910. Thus far this year the total saving of infant life is estimated at 716.

Whooping-Cough and Typhoid Fever.—Reports show that there are many more cases of whooping-cough in this city than there have been at the same period in many years and that the malady is by no means confined to children. The health department has received many complaints because mothers bring children afflicted with whooping-cough to the recreation centers, but the department holds that this is the best thing for the patients and that it would be unwise to place restrictions on this class of patients. For the four weeks previous to July 8 there were reported 140 cases of typhoid fever in the borough of Manhattan while for the same time in 1910 only seventy-four cases were reported. This increase so early in the season is attributed to the heavy rains following the prolonged drouth which was broken early in June.

Danger in Unbottled Milk.—The Subcommittee for the Reduction of Infant Mortality of the New York Milk Committee, because of complaints from nurses in the employ of the committee that much of the illness of infants was caused by unbottled milk, has made an investigation of 200 shops within easy distance of the committee's stations. Some of the samples of milk from these shops contained as high as ten million bacteria and some were highly adulterated. In order to perfect the organization of the different committees dealing with the pure milk problem, the Association of Infant's Milk Stations has been formed. A central office has been established at the Department of Child Hygiene at 969 Sixth Avenue where information as to the work of the milk stations is collected and distributed. This organization represents ninety milk stations in which 7,000 babies are cared for.

Infant Mortality.—Commissioner Lederle has made the following announcements regarding infant mortality in the city from July 1-15. For the week ended July 15, there were 359 deaths from infants under 1 year of age, as compared with 568 deaths for the corresponding week of 1910, and 148 from diarrheal diseases in infants under 1 year of age as compared with 363 in the corresponding week of 1910. From July 1-15, the period of intense heat, 706 deaths were reported of infants under 1 year of age as compared with 1,006 for the corresponding half of July, 1910. From January 1 to July 15, there were 8,043 deaths of children under 1 year as opposed to 8,353 deaths during the same period last year, and 1,454 deaths from diarrheal diseases of children under 1 year as compared with 1,711 for 1910. July and August are the months of highest infant mortality, and mothers are urged to take special precautions to guard the health of their babies during this time. Mothers are advised to take babies to milk stations to obtain pure milk and the services of doctors and nurses. If a baby is ill and the parents are unable to pay for medical attention, a physician or nurse can be obtained by telephoning to the office of the department of health.

NORTH CAROLINA

The Hookworm Campaign.—Dr. C. Wardell Stiles, scientific secretary of the Rockefeller Sanitary Commission, is making his headquarters at Raleigh and from this point he will cooperate actively in the field work of the hookworm forces now under the direction of Dr. John A. Farrall, assistant secretary for hookworm of the State Board of Health.

Personal.—Dr. Herbert D. Walker has been appointed acting assistant surgeon U. S. P. H. and M.-H. Service and has been assigned to his duty at the port of Elizabeth City, N. C., vice Dr. J. E. Wood, deceased.——Dr. Lorenzo D. McPhail, Rockingham, has been appointed superintendent of health of Richmond County.——Dr. Edward J. Wood, Wilmington, is reported convalescent after a severe attack of typhoid fever.

PENNSYLVANIA

Hospital to Collect Board.—The trustees of the State Insane Hospital at Danville have been instructed by the Attorney General's office to collect the cost of maintenance from estates or relatives of patients able to pay. This rule will hereafter obtain in all similar institutions.

New Instructors at the University of Pennsylvania.—The following changes in the teaching force of the Medical Department of the University are announced. Dr. G. T. Thomas to be associate professor of applied anatomy: Dr. George William Norris to become assistant professor of medicine in place of the late Dr. Aloysius O. J. Kelly; Drs. Joseph Rex Hobensack, William E. Quicksall, Penn-Gaskell Skillern and Nate Ginsburg to become assistant demonstrators in anatomy; Dr. Howard A. Sutton, assistant demonstrator of anatomy, to become assistant demonstrator of osteology; Dr. Norman Leslie Knipe to become assistant instructor in obstetrics; Dr. Oscar H. Plant to become demonstrator of pharmacology; Dr. James Harold Austin, demonstrator in pathology, to become associate in research medicine; Dr. A. B. Eisenbrey, associate in research medicine, to become instructor in surgery; Dr. James S. Hickey, absent on leave, will resume duty as assistant in physiology; Dr. A. H. Hopkins will become instructor in gynecology; Dr. Ralph S. Lavenson, absent on leave, will resume duty as instructor in medicine; Dr. William H. MacKinney will become assistant instructor in genito-urinary diseases.

Safeguarding of Pennsylvania Against Cholera.—The state health commissioner is taking most careful precautions to safeguard the state against cholera. He is keeping under surveillance all immigrants who come into Pennsylvania from cholera-infected ports. Since October 14,433 immigrants have come into the state and have been under surveillance by the state health officers until it was positively assured that the immigrants were not infected. The Surgeon-General United States Public Health and Marine-Hospital Service notifies the State Department of Health of the destination of every immigrant who comes from a cholera-infected port. If an immigrant goes to a city or borough the commissioner at once notifies the secretary of the local health board, instructing that he be kept under observation for at least ten days and be placed under rigid quarantine in case of the development of any suspicious illness. Immigrants going into townships are under surveillance of the state health officer. When an immigrant comes to the state he is given a postal card and is told in case of illness within ten days to send the postal to the State Board of Health. On receipt of such a postal card from the immigrant the health officer at once investigates the nature of the illness. The health officer does not, however, rely on receiving the postal card from the immigrant, but keeps in touch with him during the period of surveillance.

Philadelphia

Bequest.—The will of the late John Dobson bequeathes $10,000 to the Episcopal Hospital.

Ground Broken for Phipps Institute.—Without any formal exercises ground was broken July 10 for the new hospital and laboratory buildings of the Henry Phipps Institute at Seventh and Lombard Streets.

Mortality Decreased.—During the week ended July 22 the report of the Bureau of Health shows 485 deaths, as compared with 714 for the previous week. Twenty-eight deaths were caused by heat and there were 169 deaths of children under 2 years of age.

Personal.—Dr. H. Brooker Mills has been elected physician to the Northern Home for Friendless Children.——Dr. Warfield Theobold Longcope has been appointed assistant professor of medicine in Columbia University.——Drs. James K. Young, William Louis Rodman and Milton B. Hartzell have sailed for Europe.

City Modified Milk Station.—In order to further the crusade against infant mortality, Dr. Joseph S. Neff is planning to have the city maintain its own modified milk plant. It is proposed to turn the old police station on Wood Street, above Seventeenth, into a plant for the modifying of milk and arrangements will be made to distribute it free among mothers too poor to buy milk of the proper standard.

Babies' Hospital Successful.—During the first ten days of the "Babies' Hospital" at Wynnefield, sixty babies were brought to the hospital and all were cared for. The staff of graduate nurses has been increased from six to twelve and four visiting physicians have been added to the staff. Two tents have been placed on the lawn for the use of nursing mothers. These accommodate eight, but it is hoped to make provision for fifteen. After the babies have been sent home cured visiting nurses are detailed to follow up the cases.

Pharmacists and Chemists Protest Against Dr. Wiley's Removal.—A meeting of the members of the Pennsylvania Pharmaceutical Association, Philadelphia Association of Retail Druggists, Philadelphia Branch of the American Pharmaceutical Association and its scientific section, Philadelphia Branch of the American Chemical Society, Philadelphia College of Pharmacy, etc., was held in Philadelphia July 17 at which strong and vigorous protests were made against the suggested removal of Dr. Wiley; a preamble and resolutions were adopted and sent to President Taft, endorsing and commending Dr. Wiley's work and deploring any movement which would either cause Dr. Wiley to resign at this time or would tend to hamper him in his efforts to make the Food and Drugs Act effective, and thus practically render it a dead letter.

TENNESSEE

College Merger.—It is reported that the Medical Department of the University of Tennessee is to be moved from Nashville to Memphis where it will be established in the building of the College of Physicians and Surgeons and that the latter school will go out of existence. An attempt was made to have the merger include also the Memphis Hospital Medical College but without success.

VIRGINIA

Personal.—Dr. John Lloyd, acting resident physician at Catawba Sanatorium, has been appointed physician to the institutions.——Dr. Albert C. Fox, Waynesboro, is reported to be seriously ill in the University Hospital, Charlottesville.

New Medical Society.—The physicians of Loudoun County met at Leesburg, July 14, and organized the Loudoun County Medical Society, with Dr. Nelson G. West, Leesburg, as president, and Drs. Eppa H. Heaton, Waterford, and Thomas T. Keen, Hamilton, vice-presidents.

WEST VIRGINIA

New State Board Members.—Dr. Charles A. Wingerter, Wheeling, and Dr. William W. Golden, Elkins, have been appointed, and Drs. Joseph E. Robins, Charleston; Hosea N. Rymer, Harrisville, and Hugh A. Barbee, Point Pleasant, have been reappointed members of the State Board of Health.

WISCONSIN

Personal.—Dr. J. E. Drury, Pepin, has returned from Europe.——Dr. John P. G. Bjorkman, Racine, who has been seriously ill, is reported to be convalescent.——Dr. Harry O. Delaney, Beloit, sustained a fracture of the patella, while cranking his automobile near Bennett, Ill., July 16.

County Tuberculosis Sanatoria.—Acting under the authority of the law, passed by the present legislature, Douglas, Outagamie, Fond du Lac and Dunn Counties have made appropriations for county tuberculosis sanatoria, and Eau Claire, Dane, Winnebago, Marathon, Racine and Ashland Counties will undoubtedly take action regarding this matter at an early date. Racine, it is said, contemplates the erection of a city sanatorium. The act under which the counties are operating appropriates $20,000 annually for defraying one-half of the expenses of maintaining persons afflicted with tuberculosis in country sanatoria. The county is given the authority to build tuberculosis shacks, one-half of the cost of maintenance of which will be borne by the county and one-half by the state.

New Medical Board.—The governor has announced the following appointments to the Wisconsin State Board of Medical Examiners: Dr. Henry W. Abraham, Appleton, successor to Dr. Lewis F. Bennett, Beloit; Dr. F. Gregory Connell, Oshkosh, successor to Dr. William T. Sarles, Sparta, and Dr. George H. Ripley, Kenosha, successor to Dr. Adellon P. Andrus, Ashland. The board at its meeting in Milwaukee elected the following officers: Dr. Milton A. Barndt, Milwaukee, president; Dr. John M. Beffel, Milwaukee, secretary-treasurer; and the following committees were elected: auditing committee, Drs. William L. Thompson, Milwaukee; Charles W. Rodecker, Wonewoc, and F. Gregory Connell, Oshkosh; committee on local medical schools, Drs. Abner B. Bailey, Fennimore; John M. Beffel, Milwaukee, and George H. Ripley, Kenosha; committee on foreign colleges and departments, Drs. Milton A. Barndt, Milwaukee; Henry W. Abraham, Appleton, and F. Gregory Connell, Oshkosh; committee on midwives, Drs. Charles W. Rodecker, Wonewoc; John M. Beffel, Milwaukee; and George H. Ripley, Kenosha; and committee on reciprocity, Drs. Abner B. Bailey, Fennimore; Henry W. Abraham, Appleton; George H. Ripley, Kenosha, and William L. Thompson, Milwaukee.

GENERAL NEWS

Missouri Registration at Los Angeles.—The registration of members from Missouri was, through a clerical error, enumerated wrongly in The Journal July 22, page 328. That state should have been credited with 64 instead of 4. It was evident to almost anyone, of course, that 4 was an error.

Summary of the Cholera Situation.—The occurrence of cholera in New York and Boston is commented on editorially in this issue. The following is a brief summary of the events which have occurred since June 13, when the first infected steamer arrived.——The *Berlin* arrived at New York from Italian ports, June 13, with the report of a death from cholera at sea; the diagnosis was confirmed by bacteriologic examination of the dejecta. The vessel was inspected, the blankets and beds were disinfected by steam and the passengers and crew washed down with phenol solution. The 836 steerage passengers were removed to Hoffmann Island, June 13; of these 829 were released June 17. All of the twenty-one members of the crew, admitted to quarantine June 14, were returned to the steamer, June 17; all baggage was inspected, and foodstuffs and all soiled clothing were destroyed.——The *Europa* arrived at quarantine from Genoa and Naples, June 14, with a case of cholera. The vessel was inspected and detained four days for disinfection, which was carried out in the usual way. In addition, the patient's bed and those adjacent were disinfected with bichlorid solution, the hospital walls and beds were whitewashed, the hospital toilets treated with chlorid of lime and the hospital walls and floors whitewashed; the hospital was fumigated with sulphur (4 per cent.) for eight hours. The luggage of the steerage passengers and all below deck, mattresses, beds and tableware were disinfected by steam. The floors and windows were whitewashed, the latrines treated with chlorid of lime, soiled linen and steerage baggage were disinfected and foodstuffs destroyed. The 359 steerage passengers were removed to Hoffmann Island for observation June 15. Four steerage passengers were removed to Swinburne Island and nineteen members of the crew to Hoffmann Island on the same day. The members of the crew were discharged from quarantine June 19 and all passengers were discharged the next day.——The *Duca degli Abruzzi* arrived at New York Quarantine from Italian ports and Funchal, Madeira, June 20, reporting four cases of cholera. One died at sea, one on arrival, one later and one recovered and was discharged from quarantine July 18. One steerage passenger developed cholera, June 23, during detention at Hoffmann Island, and was removed to Swinburne Island. One male immigrant developed cholera at Auburn, N. Y., and died June 21, and one female immigrant developed cholera in Brooklyn, June 30, was reported as suspicious July 2, removed to Swinburne Island July 3 and died July 4. Both had been detained at quarantine from June 20 to June 27. The steamer was inspected, disinfected and detained five days. The 616 steerage passengers were removed to Hoffmann Island, June 20, for detention, and nineteen to Swinburne Island together with nine members of the crew. Of the detained passengers, 355 were discharged June 27 and 261 on the following day.——The *Laura* arrived June 21, having touched at Palermo, Sicily, June 7, with two cholera patients aboard. They had apparently recovered, but bacteriologic findings were positive and the patients were detained at Swinburne Island and finally discharged July 14. The vessel was inspected and disinfected in the usual way. The 341 steerage passengers were returned to quarantine June 2[illegible] before reaching Ellis Island, and were released June 27.——The *Moltke* arrived at New York from Italian ports, July 5, with [illegible] cholera case in a member of the crew, which had developed at sea, and eleven cases among steerage passengers, which developed at quarantine with four deaths. Up to July 18, four cholera carriers had been found among nine apparently healthy detained steerage passengers at quarantine. The vessel [illegible] inspected and disinfected in the usual way and was detained two days. Two hundred and twelve steerage passengers were removed to Hoffmann Island, July 7, with five members of the crew. Four days later forty-six members of the crew and one stowaway were removed to Hoffmann Island. One quarantine employee who had been guarding supposedly healthy passengers left the station and developed cholera on July 13. He was removed to Swinburne Island July 14 and died on the following day.——The *Perugia* arrived at the New York quarantine station from Italian ports, June 30, reporting two cases of diarrhea on the voyage which were bacteriologically shown to be cholera. One patient was a fireman, the other an immigrant. The steamer was disinfected and detained in quarantine, the passengers and crew held aboard in detention, and all eating and drinking utensils were boiled each time before using.——July 22 the ninth death from cholera occurred at Swinburne Island. The patient was a steerage passenger on the *Moltke*.——July 23 a case of cholera was reported from Boston believed to have been brought to that city by two sailors, members of a crew of a steamer supposed to have sailed from Italian ports. The victim was a boarding-house keeper at whose house the two sailors lodged. She died at the detention hospital, Gallup's Island, Boston. The sailors were subsequently taken ill, but disappeared and have not been located. The house of the patient who died has been thoroughly fumigated and all precautions taken to protect the twenty-five families who live in the house.——July 22, a patient admitted to Bellevue Hospital, supposed to be suffering from typhoid fever, was found to be a victim of cholera. This man was a Spaniard who came to New York as a fireman on a tramp steamer arriving July 1. The patient and his nurse were taken to Swinburne Island Hospital. July 24 the physicians at Bellevue report that the orderly who attended the sailor who developed cholera at Bellevue was ill with what was feared to be cholera.——July 25 the steamer *Oceanic* arrived from Italian ports with three cases of suspected cholera on board; the *San Giorgio* from Naples with a stowaway who was a cholera suspect, and on the steamer *Kirby Bank* which arrived at Perth Amboy, from Mexico, another cholera suspect was found.

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, July 7, 1911.

A Physician in the Ministry

There are in France many physicians engaged in active politics and some, Clemenceau and Combes, for instance, have obtained considerable eminence. The cabinet formed as a consequence of the last ministerial crisis includes a physician, Dr. Augagneur, former professor of the Faculté de médecine de Lyon. He was a deputy from that city and was for some time governor-general of Madagascar. He has just been appointed minister of public works, the postal service and telegraph.

Death of M. Adrian

M. Adrian, director and founder of the Société française de produits pharmaceutiques, has just died, aged 75. He was *préparateur* at the Ecole de pharmacie de Paris, member of the Société chimique, the Société de thérapeutique, etc., and contributed largely to the progress of pharmacy in France by his scientific works and by the founding of the society mentioned above.

Personal

Dr. Lande of Bordeaux has just been chosen president of the Association générale des médecins de France to replace Dr. Lereboullet, who has resigned.

The Bust of Brissaud at the Medical School

The collections of the Faculté de médecine de Paris have just been enriched by a bronze bust of Professor Brissaud executed from memory by a confrère, Dr. Paulin.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, July 6, 1911.

Alcohol, if a Food, is Expensive, Wasteful and Harmful

The well-known hygienist of Munich, Professor v. Gruber, delivered an address on this subject at the international meeting of Good Templars in Hamburg. He reiterated that in spite of the well-known fact that it is rapidly absorbed from the digestive tract and is oxidized and possesses a large amount of potential energy—the heat produced by digestion of alcohol being greater than with albumin and sugar and but little less than with fat—alcohol cannot be regarded as a foodstuff, because it is a narcotic poison and even in small quantities has a benumbing action on the brain. In addition it may by continued use cause other serious injury to the body. In consequence of its benumbing action alcohol is a bad source of energy for voluntary muscular work. As a result of the benumbing of the brain the motion of the muscles after small doses of alcohol (from 20 to 30 grams per day) is much less skilful than in the fasting condition. More muscles are put in motion and the muscles are contracted more powerfully than is necessary; incorrect movements are made, etc., so that the relation of the potential energy employed to the result accomplished is very unfavorable. Besides, by the benumbing of the brain, the effectual work, that is, the amount of work done in a unit of time, is quite considerably diminished. Finally alcohol should be rejected as a foodstuff not only on account of its poisonous character, but also because of its high price. A quarter's worth of potatoes yields about 4 times, of flour about 5 times, and of beet sugar about 4 times as many calories as of beer or 35 per cent. whiskey. If we consider that in consequence of the waste of energy in hard work done under the influence of alcohol, only about one-fourth part of the energy produced is expended advantageously for the body, the utter foolishness, from an economic standpoint, of the attempt to derive strength for the laborer from spirituous liquors becomes evident. If the working man buys the necessary energy for his labor in whiskey or beer, instead of in potatoes, he pays about thirty times as much and wastes his money as if one were to heat a steam boiler with wheat flour instead of coal.

Rabid Animals in 1910

In Prussia 247 injuries by the bite of rabid animals or of animals suspected of rabies were officially reported during 1910. This number is the smallest in the last nine years. Most of the injuries occurred in August, but there is no regularity as to the time of year, although as a general rule the number of bites is larger in the warmer season. Of the 138 animals which bit the persons, eighty-four were surely rabid; in fifty the diagnosis was doubtful, while four were not rabid. Of the 247 injured, 237 were submitted to the Pasteur prophylactic injection. Only one of the injured persons developed rabies. Her treatment was not begun until ten days after the injury; she died three months after her injury from blood-poisoning.

BUDAPEST LETTER

(From Our Occasional Correspondent)

BUDAPEST, July 9, 1911.

Tabes of Married Couples

At a recent meeting at the Budapest Royal Medical Society Dr. Hudovernig read a paper on this subject. He said that to date thirty-two cases of conjugal tabes have been recorded in the literature, and he reported three further cases of the kind. In his three couples, the tabes was subsequent to syphilis; in fact only one couple of the thirty-five known proved to be apparently free from syphilis. Thus in 80 per cent. of the conjugal tabes cases there was known syphilitic infection. The theory was first brought forward by Longres that tabes and general paralysis are produced by a special form of syphilis, i. e. a *virus nerveux*, which in his view possesses a special affinity for the central nervous system. Dr. Hudovernig declined to accept this view until placed in possession of real proofs. He holds, therefore, that the reason why so many syphilitics develop tabes or general paralysis while the remainder are free from any sequelæ of the kind, is not to be sought in the above-named affinity of the syphilitic virus for the central nervous system, but that this special predisposition is to be sought for in another direction, perhaps in a congenital or acquired particular predisposition of the nervous system.

Care After Recovery from Mental Disease

At the recent annual meeting of the Humanitarian Society, one object of which is the care of poor persons who have been discharged as recovered from asylums for the insane, it was stated that about 3,000 patients are discharged every year from asylums in Hungary. Such a fact clearly indicates the need for organized means whereby help may if possible be rendered in preventing a recurrence of the mental derangement. The Humanitarian Society is a branch of the Freemason Lodge, and during the past year has dealt with ninety-six cases, sixty-one women and thirty-five men. Many were boarded out in cottages in the country, and others were assisted by grants of money, clothing and promises of situations.

Marriages

LARRY B. MCAFEE, M.C., U. S. Army, Washington, D. C., to Miss Marjorie Deshon, at Hot Springs, Ark., July 7.

CHARLES BELFREY KELLY, M.D., Guelph, Ont., to Miss Marian Elise Miles of La Grange, Ill., July 13.

OSCAR WALTER NAUMAN, M.D., Craig, Mo., to Miss Fanny M. Warner of Aspinwall, Pa., recently.

MARTIN THOMAS POWERS, M.D., Rome, N. Y., to Miss Ada Belle Mason of Utica, N. Y., July 12.

GEORGE H. LONG, M.D., Luray, Va., to Miss Clara Laverne Hughes, at Earleston, Md., July 11.

MERLE VERNE FORREST, M.D., to Miss Margaret E. Warnock, both of Portland, Ore., July 9.

FREDERICK M. LEMEN, M.D., Buffalo, N. Y., to Miss Laurett S. Kurtz, at Buffalo, July 19.

FRANK E. CARPENTER, M.D., to Miss Mabel Hallenbake, both of Brooklyn, N. Y., July 10.

JAMES C. LANDREE, M.D., to Miss Anna M. J. Goldstein, both of St. Louis, July 15.

WESLEY J. WOOLSTON, M.D., to Miss Edna Chappell, both of Chicago, June 28.

Deaths

Edwin Hamilton Bidwell, M.D. University of Pennsylvania, Philadelphia, 1883; Dartmouth Medical School, Hanover, N. H., 1884; for three years coroner of Cumberland County, N. J., and for a similar time a member of the borough council of Vineland; from 1883 to 1888 secretary of the Vineland Board of Health, and a trustee of the New Jersey State Reform School for Boys from 1894 to 1898; died at his home in Vineland, July 5, aged 52.

Robert J. Carroll, M.D. Jefferson Medical College, 1867; acting assistant surgeon, U. S. Army, from 1867 to 1869; a veteran of the Civil War; for several years coroner of Dutchess County, N. Y., health officer of the township and of the village of Red Hook and president of the board of trustees of the village; died at his home, April 24, from carcinoma of the intestine, aged 67.

George W. Truitt, M.D. University of Maryland, Baltimore, 1875; formerly a member of the house of delegates, from Wicomico and Baltimore Counties, and State Senator from Wicomico County; for twelve years deputy fire insurance commissioner of Maryland; died at his home in Roland Park, Baltimore County, July 11, from cerebral hemorrhage, aged 65.

Edward Guadalupe Frisbie, M.D. Cooper Medical College, San Francisco, 1882; a member of the American Medical Association; formerly president of the State Board of Medical Examiners; president of the Thomas Hospital Association; died in that institution, July 13 from septicemia, due to a scratch of the forehead, ten days before, aged 53.

Isaac Richard Lane, M.D. Northwestern University Medical School, Chicago, 1867; for twenty years a practitioner of Mountain Grove, Mo.; a member of the Southwestern Medical Society of Missouri, and a charter member of Greene County Medical Society; died in Alexian Brothers' Hospital, St. Louis, May 19, from cerebral thrombosis and arteriosclerosis.

Hubbard Linley, M.D. University of Nebraska, Omaha, 1893; a member of the American Medical Association; division surgeon of the Missouri Pacific Railway, with headquarters at Atchison, Kan.; a member of the local board of pension examining surgeons; died suddenly in his office in Atchison, July 14, from heart disease, aged 51.

Watson Roberts O'Connor, M.D. Queens University, Dublin, Ireland, 1869; for many years a surgeon for the Peninsular and Oriental Steamship Company, but for more than thirty years a practitioner of Lawrence, Mass.; for three terms city physician and medical inspector of schools; died at his home June 24, aged 61.

Isaiah Winds Condict, M.D. College of Physicians and Surgeons, New York City, 1847; a member of the Medical Society of New Jersey and of the Tri-County (Sussex, Warren and Morris) Medical Association; one of the oldest practitioners of the state; died at his home in Dover, July 4, aged 93.

Samuel Mason Zeigler, M.D. University of Pennsylvania, Philadelphia, 1899; of Greenville, Pa.; a member of the Medical Society of the State of Pennsylvania; chief surgeon of the Bessemer and Lake Erie Railroad; was instantly killed in an automobile accident at Sherman, N. Y., July 2, aged 36.

Otis Milton Humphrey, M.D. Long Island College Hospital, Brooklyn, 1862; a pioneer resident of Minneapolis, Minn.; surgeon of Massachusetts volunteers throughout the Civil War and brevetted lieutenant-colonel for faithful and meritorious services in 1865; died at his home July 8, aged 79.

Robert Foster Andrews, M.D. Dartmouth Medical School, Hanover, N. H., 1858; a member of the Massachusetts Medical Society, and for more than fifty years a practitioner of Gardner; died at the home of his brother in North New Salem, July 10, from cerebral hemorrhage, aged 75.

John Kiern McDonnell, M.D. Dartmouth Medical School, Hanover, N. H., 1898; formerly of Meyer, Ariz.; a member of the American Medical Association; assistant chief surgeon to the United Verde Hospital; died at his home in Jerome, Ariz., May 25, from suppurative appendicitis, aged 35.

Emmor H. Price, M.D. Pulte Medical College, Cincinnati, 1873; of Chattanooga, Tenn.: a veteran of the Civil War, and for four years thereafter assistant revenue collector; died at the West Ellis Hospital, Chattanooga, July 10, from nephritis, aged 78.

James C. Thompson, M.D. Western Pennsylvania Medical College, Pittsburg, 1891; a member of the Medical Society of the State of Pennsylvania; consulting surgeon to the Franklin Public Hospital; died at his home in Franklin, July 12, from diabetes, aged 54.

John M. Crawford, M.D. Columbus (Ohio) Medical College, 1877; for thirty-five years a practitioner of Minerva, O., but for the last three years a resident of Cleveland; a veteran of the Civil War; died at the Glenville Hospital, Cleveland, July 10, aged 67.

Benjamin F. Ray, M.D. Western Reserve University, Cleveland, 1870; a member of the hospital corps during the Civil War; for thirty years a practitioner of Geauga County, O.; died at the home of his daughter in Cleveland, July 13, aged 68.

William L. Pollock, M.D. Jefferson Medical College, 1871; a member of the Iowa State Medical Society and formerly president of the Central District Medical Association: died suddenly at his home in Boone, July 15, from heart disease, aged 60.

Edward H. Clarke (years of practice, New York, 1845); who practiced for about three years in that state and then went into other business; died at the home of his daughter in Morristown, N. J., January 13, from chronic bronchitis, aged 87.

Charles Archelaus Coolidge, M.D. Dartmouth Medical School, Hanover, N. H., 1856; for more than fifty years a practitioner of Canton, Me.; died at the home of his son in North Waterford, Me., July 1, from cerebral hemorrhage, aged 81.

William L. Stevens, M.D. Medical College of Ohio, Cincinnati, 1882; of Arco, Idaho; died in Blackfoot, Idaho, in March, from cerebral hemorrhage, while on his way to Ogden to take treatment for cancer of the stomach, aged about 58.

William Thomas Jones, M.D. Jefferson Medical College, 1904; of Natchez, Miss.; died at the sanitarium of Dr. Charles Chamberlain in Natchez, July 9, from septicemia following an abscess of the shoulder, aged 36.

Alfred Samuel Bassinger, M.D. Starling-Ohio Medical College, Columbus, Ohio, 1911; of Bluffton, Ohio; who received his license to practice July 5, was drowned while bathing in Lake Erie, near Lakeside, July 7, aged 29.

Thomas Hodge Jones, M.D. Eclectic Medical Institute, Cincinnati, 1879; a veteran of the Civil War; for several years superintendent of schools of Laclede County, Mo.; died at his home in Springfield, April 24, aged 70.

John W. Dillard, M.D. University of Virginia, Charlottesville, 1875; formerly of Chandler, Okla.; died at his home in Bristow, Okla., February 2, from peritonitis, following an operation for appendicitis, aged 54.

Daniel Free (license, Ohio, years of practice, 1896); for forty-five years a practitioner of the state and said to have been the oldest physician in Marion County, died at his home in Green Camp, July 12, aged 78.

Richard E. Jones, M.D. Miami Medical College, Cincinnati, 1856; a member of the American Medical Association, and a life member of the Ohio State Medical Association; president of the First National Bank of Lima; died at his home in Gomer, April 24, aged 76.

John G. Noles, M.D. Louisville (Ky.) Medical College, 1907; of Dubberly, near Ringgold, La.; died in a sanitarium at Shreveport, La., May 9, five days after an operation for intestinal obstruction, aged 32.

Fernandez Todd, M.D. University of Pennsylvania, Philadelphia, 1875; a member of the Medical Society of the State of Pennsylvania; died at his home in Houtzdale, May 17, from pneumonia, aged 61.

Samuel L. Tyner, M.D. Rush Medical College, 1870; a member of the Indiana State Medical Association; formerly clerk of Warrick County; died at his home in Boonville, July 14, from cerebral hemorrhage.

George L. Andrew, M.D. New Medical Institution, New York City, 1845; chief inspector of the U. S. Sanitary Commission during the Civil War; died at his home in La Porte, Ind., July 19, aged 89.

Charles Lanning, M.D. State University of Iowa; College of Homeopathic Medicine, Iowa City, Ia., 1885; died at his home in Morrison, Ill., July 5, from cerebral hemorrhage, aged 68.

David W. Else, M.D. Kansas City (Mo.) Hospital Medical College, 1885; at one time coroner of Cloud County, Kan.; died at his home in Concordia, July 2, from heart disease, aged 70.

Ezra R. Spencer, M.D. University of Pennsylvania, Philadelphia, 1870; a member of the American Medical Association; died at his home in Doylestown, O., July 13, aged 73.

John A. Morrison, M.D. Cincinnati College of Medicine and Surgery, 1875; for many years a practitioner of Montpelier, Ind.; died at his home in Jackson Township, July 11, aged 62.

Gerhard Carl Benneke, M.D. Rush Medical College, 1911; who was about to go to Alaska as a medical missionary; was drowned in Rock River, near Watertown, Wis., July 4, aged 27.

Thomas Hillery West, M.D. University of Pennsylvania, Philadelphia, 1870; a Confederate veteran; died at his home in Keyser, W. Va., July 12, from heart disease, aged 69.

Abram Morrison, M.D. University Medical College of Kansas City, Mo., 1897; a member of the Arizona Medical Association; died at his home in Tucson, July 8, aged 40.

Clarence Alphonzo Crain, M.D. Kentucky School of Medicine, 1894; a member of the Kentucky State Medical Association; died at his home in Helena, April 5, aged 41.

Henry Rock Connor, M.D. Bellevue Hospital Medical College, 1894; assistant physician to the French Hospital, New York City; died at his home, July 7, aged 54.

Lyman H. Jones, M.D. Atlanta (Ga.) Medical College, 1878; for many years a practitioner of Atlanta; died at his home in Atwood, Ga., July 1, aged 60.

Joseph H. Baxter, M.D. Bellevue Hospital Medical College, 1884; for forty years a practitioner of Columbus, Kan.; died at his home in that city, July 14, aged 63.

Lewis Freeman Worthley, M.D. New York University, New York City, 1881; died at his home in Altoona, Pa., July 6, from cerebral hemorrhage, aged 70.

Job Theophilus Edwards, M.D. Leonard School of Medicine Raleigh, N. C., 1906; died at his home in Connellsville, Pa. July 9, from tuberculosis, aged 34.

Lon O. Pickens, M.D. University of Nashville, Tenn., 1907 died at his home in Ashland, Okla., July 4, from the effect of an accidental gunshot wound.

Archibald Nesbitt Johnson, M.D. University of Michigan Ann Arbor, 1862; formerly of Cumber; died at his home in Detroit, July 8, aged 75.

Frank M. Brewer, M.D. Bennett Medical College, Chicago 1885; died at his home in Fort Atkinson, Wis., July 4, from heart disease, aged 48.

Thomas B. Welsh, M.D. Cleveland Homeopathic Medical College, 1898; died in his office in Pittsburg, Pa., July 6 aged 41.

James Edward Keating, M.D. Harvard Medical School, 1879; died at his home in Natick, Mass., July 5, from heart disease, aged 64.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

EN-AR-CO OIL

A Poisonous Nostrum for Curing Rheumatism and Making Hens Lay

Before the passage of the federal Food and Drugs Act, the most insidiously dangerous poisons could be sold to the public in the form of "patent medicines" without the slightest warning or indication of their deadly character. The passage of that act made it obligatory on the "patent medicine" venders to disclose the presence of certain specified drugs if such entered into the composition of their nostrums. The number of drugs whose presence must thus be declared is small. Some of the most virulent poisons need not be specified and their presence can be hidden in a "patent medicine" with impunity. Strychnin, arsenic and prussic acid are but three of a large number of dangerous drugs whose presence it is not necessary to declare and which may enter into the composition of "patent medicines" without any warning being given to the purchaser.

Inquiries have been received concerning the composition of a nostrum known as En-Ar-Co Oil. The label on the bottle of this preparation states that "the popular En-Ar-Co Oil" was "known for a quarter of a century as 'the wonderful Japanese Oil.'" It is further stated that "this style label [was] adopted to meet requirements of Food and Drugs Act." One wonders whether the exploiters of En-Ar-Co Oil found it necessary after the passage of the Food and Drugs Act, to discard the name "Japanese Oil," because it is not a Japanese oil. The pure food law, while permitting falsehoods regarding the curative effects of nostrums, prohibits untruths regarding the place of origin.

Accompanying the package of En-Ar-Co Oil is a circular in which it is stated concerning the nostrum:

> "A medicine that is equally valuable for Man, Beast or Fowl is something outside the general run, and should attract the attention of all classes accordingly."
>
> "We do not claim it to be infallible, or to cure everything, but we do believe that it comes nearer to accomplishing all this than any other known remedy; for proof of this read list of diseases, printed hereon, which it relieves and the testimonials published here and elsewhere."

The list of diseases referred to is large enough to make the gullible feel that he is getting his money's worth. Such widely different pathologic conditions in human beings as asthma, "toe itch," fever sores, rheumatism and insect bites are said to yield to the curative power of En-Ar-Co Oil, while in the lower animals, hog cholera, spavin, distemper and roup may be made to disappear. From the testimonials, it appears that lockjaw and snake bite also are easily conquered by this wonderful remedy. Most important of all:

"En-Ar-Co Oil is also excellent for making hens lay."

An original package of En-Ar-Co Oil was examined by the Association's chemists, who report as follows:

LABORATORY REPORT

Qualitative tests demonstrated the presence of ethyl alcohol, iso-amyl alcohol (the chief constituent of "fusel oil"), capsicum and a volatile oil of a greenish color and eucalyptus-like odor, but which was not identified. Neither cantharides nor ginger could be found and alkaloids were absent. While no exact separations were made it is concluded that about 90 per cent. of the preparation consists of "fusel oil."

From the results of this cursory examination it appears that a mixture of "fusel oil" and tincture of capsicum with a little oil of eucalyptus added would have properties similar to those of the "Wonderful Japanese Oil."

Iso-amyl alcohol is, according to different investigators, from ten to twenty times as poisonous[1] as ethyl (grain) alcohol. A number of serious and some fatal cases of poisoning from the use of "fusel oil" have been reported.[2] If it be remembered that the extraordinarily poisonous and irritating properties of freshly distilled liquors are largely due to the small quantities (usually less than 1 part in 1,000) of "fusel oil" which they contain, it can be seen that a 10-drop dose of this mixture (about 9 drops of which are "fusel oil") might be distinctly poisonous to an adult. "Fusel oil" is not employed in the rational practice of medicine, although it is said to have been used occasionally by the ignorant as a local application for rheumatism. Its employment in a "patent medicine" is contrary to the general rule that nostrums usually contain only well-known remedies.

Whatever the value of such a concoction for relieving "toe itch" or for "making hens lay" may be, its use by human beings as an internal remedy cannot be too strongly condemned and its sale without a poison label should be prohibited.

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[1] Dujardin-Beaumetz and Audige: Compt. rend., 1875, lxxxi, 192; Rabuteau: Ibid., 631; Richardson: Suppl. Med. Times and Gaz., 1869, ii, 705; Frankel: Die Arzneimittel-Synthese, ed. 2, 133.

[2] Ord: Lancet, 1889, ii, 1225; Swain: Brit. Med. Jour., 1891, i, 903; Rodzevitch: Russk. Med., 1893, xviii, 249, 264; Futcher: Am. Med., 1901, ii, 210.

Correspondence

Postgraduate Work for Americans at Budapest

To the Editor:—I thought it might be interesting to some of the readers of The Journal to hear something about the advantages and the opportunities offered for study and postgraduate work here in Budapest on the "beautiful blue Danube," about 150 miles southeast of Vienna. Budapest has a population of nearly one million, and is becoming celebrated for the number and character of its educational institutions.

The Hungarians have made wonderful progress in the last thirty years; especially have they shown material advancement in the science and art of medicine and surgery. Their hospitals are nearly all modern buildings, beautifully situated as regards light and air, with pleasant surroundings and well equipped with the latest and best appliances, for *x*-ray, laboratory, pathologic and clinical work.

Of the two gynecologic hospitals which are connected with the Royal Hungarian University I can speak from practical experience, as I have been working as clinical assistant in one of them for the past two months. This hospital contains 150 beds, half of the building being devoted to gynecologic cases and the other half to obstetrics. There is a separate building for septic cases and also one for dispensary cases. In this latter department from forty to fifty patients are examined and treated every morning from 8 till 11.

In the obstetric division from six to eight women are confined daily, and one can see here in a short time various abnormalities of the pelvis and any number of difficult labo cases, ranging from forceps operations to extraperitonea Cesarean sections. This latter operation is performed where the patient has been examined *per vaginam* for two weeks previous to delivery, as they believe that where there is the slightest danger of infection it is not wise to open the peritoneum.

For any physician wishing to do postgraduate work in gynecology or obstetrics, this place has a great many advantages over other large European cities. Every opportunity is afforded one to make the examinations, treat the patient and follow the case from beginning to end. The supply of material is unlimited and the number of physicians coming here for work is not so large as in some of the other medical centers, so that one can have plenty of opportunity to work along the lines he most desires. Emergency cases are treated when practicable at the homes of the patients, and at least twelve to fifteen new patients are attended to daily. Even in the poorest of homes wonderful results are obtained and seldom is there an infection following confinement or miscarriage, as the asepsis is the most thorough and rigid that could be put into practice.

Another advantage is the ability of the assistants to speak English, and besides their native language they also speak

French and German. With the aid of German, one would have no difficulty in making himself understood, as the nurses also speak German. Dr. Scipiades, the adjunct professor, has traveled extensively in the United States, is well acquainted with some of our best surgeons and is conversant with the methods used in some of our large hospitals. Docent Frigyesi, who will become a professor next year, has been stationed in this hospital for the past ten years. He speaks English well and is a kindly and courteous physician, ever willing and ready to demonstrate the gynecologic cases. These two men do the bulk of the operating work and display considerable skill and precision combined with directness and rapidity of operating. Assistant Schmidlechner, who has charge of the bacteriologic and out-patient department, speaks excellent English, having lived in London a number of years. One can under his direction obtain a valuable experience in examining the innumerable cases that come under his charge. Assistant Mansfield, who is a relative of the late actor, Richard Mansfield, has charge of the obstetric department and is also extremely courteous and willing at all times to demonstrate the cases in his division. Professor Tauffer, chief of the clinic, is a well-known physician, having been assistant to Professor Hegar of Freiburg, and was last month elected one of the presidents of the gynecologic congress held at Munich.

Everything is done here for the comfort and enlightenment of the visiting physicians that possibly could be done, and it is a great proof of the catholicism of medical science which one finds so well demonstrated in this far away eastern country. I might add that the best season for work here is between September and June.

Frank McMorrow (of Syracuse, N. Y.).

The Introduction of the Ophthalmoscope Into This Country

To the Editor:—In "A Tribute to Herman Knapp," you state editorially in The Journal, May 20, 1911, in substance that Dr. Knapp first introduced the ophthalmoscope into this country in 1868. This is erroneous. Whatever credit is attached to the first introduction of that instrument into this country belongs to the late Dr. E. Williams of Cincinnati.

In 1852, Dr. Williams determined to devote his life to the specialty of ophthalmology and went to Europe to perfect his education along that line. Just at that time the ophthalmoscope first came into use and Dr. Williams had the rare good luck to be able to study its uses along with Des Marres, Graefe, Arlt, Jaeger and others in Germany.

Early in the year 1854, he introduced the ophthalmoscope into London. At that time this instrument was unknown in England, so far as its uses were concerned. While in London, Dr. Williams wrote and published a full account of the new instrument in the *Medical Times and Gazette*, July 1, 1854. This article was the first ever published in English on that subject. The heading was: "The Ophthalmoscope; the Principles on Which it is Based—the Manner of its Application—and its Practical Advantages; with a Report of Some Cases."

I have a copy of this article. The description of the instrument, simple as it was, was very complete and the report of the three cases of retinal detachments would be practically up to date now, except that he called the cases "dropsy of the retina." The old English writers (Mackenzie and Lawrence) quoted extensively from this article in their books, published soon after the article appeared.

In the spring of 1855, Dr. Williams returned to Cincinnati and brought with him the first ophthalmoscope ever brought to this country, and from that time on he used the ophthalmoscope whenever he had occasion.

When I went to Cincinnati in the fall of 1860 to begin the study of medicine, Dr. E. Williams, my uncle and preceptor, and the first educated man in this country to make a specialty of ophthalmology, was using the ophthalmoscope right along and had been doing so ever since the spring of 1855.

From the above you can readily see that Dr. Herman Knapp did not introduce the first ophthalmoscope into this country.

A. D. Williams, Bedford, Ind.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MENTAL HEALING

To the Editor:—Please refer me to some articles treating the subject of mental healing, especially as practiced by religious sects, from a physician's point of view.

R. E. Teall, Palco, Kan.

Answer.—A recent work on the subject is Cutten's "Three Thousand Years of Mental Healing." In addition the articles listed below contain more or less information on the subject of mental healing.

Mitchell, J. K.: The Emmanuel Movement, *Am. Jour. Med. Sc.*, December, 1909; abstr. in The Journal, Jan. 1, 1910, p. 79.
Church, A.: Mind Cures in General and the Emmanuel Movement in Particular, *Jour. Mich. State Med. Assn.*, December, 1909; abstr. in The Journal, Oct. 9, 1909, p. 1220.
Collins, J.: The Emmanuel Movement, The Journal, Jan. 2, 1909, p. 87.
The Medical Profession and the Emmanuel Movement: Correspondence, The Journal, Jan. 23, 1909, p. 314.
Symposium on Psychotherapy, The Journal, March 13, 1909, p. 916. These articles appeared in full in the *Illinois Medical Journal*, May, 1909.
Hilscher, S. S.: The Physician's Relation to Mental-Healing Systems and Methods, *Jour. Kan. Med. Soc.*, June, 1908; abstr. in The Journal, May 30, 1908, p. 1823.
Psychotherapy and Religion, Editorial, The Journal, Dec. 26, 1908.
Mental Healing, Editorial, The Journal, March 28, 1908, p. 1042.
Fads in Mental Healing, Editorial, The Journal, June 13, 1908, p. 1987.
Religious Therapeutics, Editorial, The Journal, April 4, 1908, p. 1124.
Fallows: Religious Psychology, *Chicago Med. Recorder*, March, 1908; abstr. in The Journal, May 16, 1908, p. 1652.
Cabot, R. C.: Mind Cure: Its Service to the Community, *Detroit Med. Jour.*, August, 1907; abstr. in The Journal, Sept. 14, 1907, p. 968.

BUTTERMILK IN INTESTINAL PUTREFACTION

To the Editor:—Will you please supply references to the literature concerning the value of buttermilk, either supporting or opposing the claim of Metchnikoff that the lactic acid bacillus tends to decrease the production and absorption of putrefactive bodies from the large intestine?

T. R. S.

Answer.—Following is a list of articles which have appeared in The Journal, or have been abstracted. Reference is also given to an article in the *American Journal of Diseases of Children* on the *Bacillus acidophilus*, which may be of interest in this connection:

Ritter, J., and Buttermilch, W.: Buttermilk for Infants with Acute Indigestion, *Berl. klin. Wchnschr.*, Nov. 28, 1910; abstr. in The Journal, Jan. 14, 1911, p. 160.
Buttermilk Therapy, The Journal, July 24, 1909, p. 304.
Koeppe, H.: Buttermilk in Infant Feeding, *Deutsch. med. Wchnschr.*, June 17, 1909; abstr. in The Journal, July 31, 1909, p. 421.
Buttermilk Therapy and Milks as Foods, Query and Minor Note, The Journal, Aug. 14, 1909, p. 576.
Strauch, A.: Buttermilk as Infant Food, *Med. Rec.*, New York, March 30, 1907; abstr. in The Journal, April 13, 1907, p. 1297.
Judson, C. F., and Clock, R. O.: Modified Buttermilk in Infant Feeding, *New York Med. Jour.*, Apr. 30, 1907; abstr. in The Journal, May 4, 1907, p. 1548.
Carpenter, H. C.: Buttermilk Feeding, The Journal, May 11, 1907, p. 1576.
Allen, F. H.: Buttermilk as a Food for Infants, *Ann. Gynec. and Pediat.*, August, 1907; abstr. in The Journal, Sept. 7, 1907, p. 879.
Herter, C. A.: The Manifestations of Saccharo-Butyric Intestinal Putrefaction The Journal, Dec. 14, 1907, p. 1965, and Dec. 21, p. 2077.
Rotch and Kennedy: A Preparatory Study of the Bacillu Acidophilus in Regard to Its Possible Therapeutic Use, Am *Jour. Dis. Child.*, July, 1911, p. 30.

HISTORY OF MEDICINE

To the Editor:—In an editorial, July 1, 1911, p. 28, you discussed "Medical History Clubs," and I think you are quite right in your views of the subject. For some time I have been thinking of writing you for as complete a list of books on the history of medicine and surgery, both in general and particular, as you could furnish.

J. L. Miller, Thomas, W. Va.

Answer.—A list of books on the history of medicine was published in The Journal (May 8, 1909, page 1517) and also a separate list of books on the recent history of surgery.

Since that time another has come out that ought to be mentioned, namely, "The History of Medicine," by Max Neuburger, in two volumes, published by the Oxford University Press, London, at $9.

CONTRACT PRACTICE

To the Editor:—Please define for me what is meant by the term "contract practice" as it is used at the present day in reference to a certain phase of the practice of medicine.

A. B. SCHNADER, Mount Carmel, Pa.

ANSWER.—See THE JOURNAL, department of Medical Economics, July 8, 1911, p. 145.

REQUEST FOR CIRCULARS ON HARMON-JACKMAN BOOK

To the Editor:—Any physician receiving circulars advertising a book published by one W. J. Jackman and purporting to contain an introductory chapter by me will confer a favor by sending to me such circulars, with the envelope in which they were received.

G. FRANK LYDSTON, M.D., Chicago.

"ROENTOGRAPHY"

To the Editor:—Your correspondent (July 1, p. 39) has cut the Gordian knot of *x*-ray nomenclature which, as the *Interstate Medical Journal* of June, 1911, states, is still open to discussion after fifteen years of the universal use of this physical agent. Its editorial comments on the nomenclature promoted by the American Roentgen Ray Society that "it would load our language with polysyllables which are more or less ridiculous in the English language." By dropping enough of the syllables to make their terms available as your correspondent suggests, the Gordian knot is cut and enough of Roentgen's name is left for individualization of the technic and doing honor to the scientist, while "roentography," "roentograph" and "roentogram" step into line with photography, photograph, radiography, etc.

F. C.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 15, 1911.

Love, Joseph W., M.R.C., granted one month and fifteen days leave of absence.

Lyster, William J. F., major, ordered to proceed from Fort Oglethorpe, Ga., to San Antonio, Texas, for duty with 11th Cavalry.

Fauntelroy, P. C., major, ordered to proceed to Camp Douglass, Wis., for duty at encampment organized militia of Wisconsin, from July 8 to 28, 1911.

Birmingham, H. P., colonel. Fisher, Henry C., lieut.-colonel, and Bartlett, C. J., major, promoted to rank from June 7, 1911.

Bernheim, Julien R., dental surgeon, ordered to proceed from Fort Sheridan, Ill., to Columbus Barracks, Ohio, for temporary duty.

Millikin, John D., dental surgeon, will, after arrival at San Francisco and on expiration of leave of absence, proceed to Columbus Barracks, Ohio, for duty at that station.

Fisk, Owen C., lieut., relieved from treatment at Hot Springs, Ark., and ordered to proceed to Walter Reed General Hospital, Takoma Park, D. C., for treatment.

Ruddy, William P. J., M.R.C., relieved from temporary duty at Washington Barracks, D. C., and to return to Fort Myer, Va.

Gentry, Ernest R., lieut., ordered to San Antonio, Texas, for temporary duty in Department of Texas.

Freeman, Paul L., captain, relieved from temporary duty at San Antonio, Texas, and to return to Fort Riley, Kan.

Ferenbaugh, Thomas L., lieut., now at San Antonio, Texas, will report to commanding general, Department of Texas, for temporary duty.

Craig, Charles F., captain, granted thirty days' leave of absence about Aug. 1, 1911.

Chambers, William H., dental surgeon, reports departure from duty at West Point, N. Y., for duty at Army General Hospital, San Francisco.

Stone, Frank P., dental surgeon, returned to Army General Hospital, San Francisco, from temporary duty at Fort Rosecrans, Cal.

Hess, John H., dental surgeon, left Fort McDowell, Cal., on thirty days' leave of absence.

Berry, Harry R., first-lieut., will be relieved from duty, maneuver division, San Antonio, Texas, July 24, and return to former station, Fort Benjamin Harrison, Ind. Granted leave for one month after arrival at that post.

Davis, Arthur O., first-lieut., granted leave of absence for one month on arrival at Fort Oglethorpe, Ga.

Divins, George C., first-lieut., will be relieved from duty with Troop E, 3d Cavalry, at Minera, Texas, July 1, and will proceed to San Fordyce, Texas, reporting to commanding officer, Troop L, 3d Cavalry.

Brown, Polk D., M.R.C., relieved from duty, Minera, Texas, and ordered to return to Fort Sam Houston. Granted leave of absence for one month from July 2.

Aydelotte, John T., first-lieut., granted leave of absence for one month on surgeon's certificate of disability.

Gunckel, George J., dental surgeon, left Fort Barrancas, Fla., en route to Fort Dade, Fla., for temporary duty.

Billingslea, C. C., captain, reports departure from Washington, D. C., on fourteen days' leave of absence.

Owen, Leartus J., captain, ordered to Port Huron, Mich., Aug. 9 to 18, 1911, as inspector-instructor of militia.

Billingslea, Charles C., captain, having completed duty, this city, will return to proper station on expiration of leave of absence granted him.

Darby, Taylor E., first-lieut., granted leave of absence for fourteen days on his relief from temporary duty, Fort McPherson, Ga.

De Laney, Matthew A., major, will report in person to the surgeon-general of the Army for assignment to duty as attending surgeon in this city.

Russell, Frederick F., major, will proceed to Kingston, N. Y., to deliver an address on typhoid vaccination at annual meeting, Third District Branch Medical Association, New York, and then return to proper station, this city.

Thomason, Henry D., captain, will proceed to Port Huron, Mich., about Aug. 9, 1911, for consultation with adjutant general, State of Michigan, for reorganization medical corps and sanitary troops of that state.

Smith, Allen M., lieut.-colonel, on board to meet at Fort Sam Houston, August 1, to examine applicants for commission in volunteer force.

Usner, Francis M. C., major, on board to meet at Fort Sam Houston, Texas, August 1, to examine applicants for commission in volunteer force.

Barber, John R., Worthington, Joseph A., Ashford, Mahlon, Huber, Edward G., Lamble, John S., Jr., Tasker, Arthur N., Snyder, Howard McC., Cowles, Calvin D., Jr., McKinney, Garfield L., and Phillips, Hiram A., captains, promoted to rank from June 13, 1911.

Poust, Luther R., M.R.C., reports for temporary duty at Fort Hamilton, N. Y.

Boens, Charles J., M.R.C., ordered to Fort Ontario, N. Y., for temporary duty. Reported at Fort Ontario same date.

The following named officers will proceed at the proper time to camps of organized militia, as specified below, for duty as instructors and inspectors: Hess, Louis T., major, ordered to Mount Gretna, Pa., July 8-15; Robbins, Chandler P., major, ordered to Frederick, Md., July 12-22; Williams, Allie W., captain, ordered to Niantic, Conn., July 10-15; Hopwood, Lucius L., captain, ordered to Basic City, Va., July 17-23.

Miller, E. W., captain, left Fort Ontario, N. Y., en route to Camp Kanawha, W. Va., militia, for duty as inspector-instructor.

McAfee, L. B., lieut., left Hot Springs, Ark., on ten days' leave of absence.

Hess, Louis T., major, left Fort Hamilton, N. Y., en route to Camp Mount Gretna, Pa., as sanitary inspector.

Williams, A. W., captain, left Fort H. G. Wright, N. Y., en route to Niantic, Conn., as instructor sanitary troops.

Burnett, Thomas W., M.R.C., reported for temporary duty at Fort Slocum, N. Y.

Baker, C. R., M.R.C., reported for duty at Fort Hancock, N. J.

Brown, Ira C., M.R.C., is relieved from duty at Fort Douglas, Utah, on arrival of 15th Infantry and will return to Fort Lawton, Wash.

Ashford, Bailey K., major, is relieved from present duties on assumption of duties as advisor of the governor of Porto Rico.

Owen, L. J., captain, ordered to proceed at proper time to camp organized militia, at Port Huron, Mich., for duty as inspector-instructor, Aug. 9 to 18, 1911.

Cook, George W., lieut., granted leave of absence for one month.

Miller, Reuben B., major, promoted to with rank from June 21, 1911.

Craft, Edgar D., first-lieut., appointed with rank from Feb. 17, 1911.

Medical Corps, U. S. Navy

Changes for the week ended July 22, 1911.

Geiger, A. J., P. A. surgeon, detached from the naval hospital, Mare Island, Cal., and ordered to the *Colorado*.

Hayward, A. B., P. A. surgeon, detached from the *Colorado* and ordered to the *South Dakota*.

McGuire, L. W., asst.-surgeon, detached from the *South Dakota* and ordered to the navy recruiting station, Portland, Ore.

Dickson, S. H., medical director, transferred to the retired list from July 20, 1911; detached from the marine barracks, Washington, D. C., and ordered home.

Kelley, H. L., P. A. surgeon, detached from the *Yorktown* and ordered to duty at the naval hospital, Mare Island, Cal.

Munger, C. B., P. A. surgeon, detached from the *West Virginia* and ordered to the *California*.

Camerer, C. B., asst.-surgeon, detached from the *California* and ordered to the *Yorktown*.

Alfred, A. R., surgeon, ordered to the navy-yard, Norfolk, Va.

Kennedy, R. M., surgeon, ordered to duty at the Naval Medical School, Washington, D. C.

Rodman, S. S., surgeon, orders of May 19 revoked.

Rennie, W. H., P. A. surgeon, detached from the naval hospital, Boston, and ordered to the *Tacoma*.

Jenkins, H. E., asst.-surgeon, detached from the *Montana* and ordered to the *Ohio*.

Bishop, E. W., P. A. surgeon, detached from the *Tacoma* and ordered to the *New Jersey*.

Thomas C. G., asst.-surgeon, orders of May 19, revoked.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended July 19, 1911:

Wertenbaker, C. P., surgeon, detailed to represent the Service at a meeting of the Association of Surgeons, Atlantic Coast Line Railroad, to be held at Norfolk, Va., July 25-26.

Brown, B. W., surgeon, granted one month's leave of absence to be taken when he can be absent without detriment to the service.

Oakley, J. H., surgeon, directed to proceed to New York and return to station on board steamship carrying immigrants.

Mathewson, H. S., P. A. surgeon, granted two months' leave of absence from Aug. 1, 1911.

Von Ezdorf, R. H., P. A. surgeon, directed to proceed to New York via the Bureau, on special temporary duty.

Moore, Dunlop, P. A. surgeon, granted seven days' additional leave of absence from July 17, 1911.

Foster, A. D., P. A. surgeon, granted one month's leave of absence from Aug. 2, 1911.

Frost, W. H., P. A. surgeon, directed to proceed to Little Rock, Ark., on special temporary duty.

de Valin, Hugh, P. A. surgeon, granted seven days' leave of absence from June 28, 1911, on account of sickness.

Earl, F. D., acting asst.-surgeon, granted fifteen days' leave of absence from July 14, 1911.

Hicks, W. R., acting asst.-surgeon, granted 30 days' leave of absence from July 10, 1911.

Markoe, W. W., acting asst.-surgeon, granted twenty-four days' extension of leave on account of sickness, from June 1, 1911.

Watson Harry J., acting asst.-surgeon, granted thirty days' leave of absence from Aug. 14, 1911.

Herrick, Dr. A. W., appointed acting asst.-surgeon for duty at Bay City, Mich., July 11, 1911.

Medical Economics

PERSONAL LIBERTY AND SCHOOL INSPECTION

That organization created primarily to fight the American Medical Association on account of its crusade against quackery and frauds in medicines—the National League of Medical Freedom—has been circulating throughout the country printed matter, mimeographed letters, circulars and other campaign literature (?) attacking the medical inspection of school children. This matter has been sent principally to school superintendents with a view to prejudicing them against the proper inspection of school children. An accompanying letter asks the school superintendent to protest against school inspection in his city. This circular letter has called out at least one reply in which the writer does not hesitate to speak his mind. The following by the superintendent of schools of one of the large New England cities has been reprinted by the Russell Sage Foundation, Department of Child Hygiene:

> *Dear Sir:* Your letter and pamphlets relating to compulsory medical inspection are received.
>
> We have medical inspection in our city, though usually not compulsory, parents being allowed in most cases to have a child exempt on request. In a few cases not only inspection but treatment is compulsory, horrible as such a condition may appear. We found over 400 cases of pediculosis last year, for instance, and actually forced parents to kill or remove the parasites. Last week we found a little girl with a large abscess in the ear. In the opinion of three ear specialists her life was in great danger; without treatment, indeed, they considered it probable that the child would soon die. The child has no father. The mother refused to have anything done. Under threat of arrest she allowed the child to go to a hospital, where she is likely to come out all right, though not yet out of danger. I have just come within an hour from a school where I found a little girl of 5 with an ulcer in the eye. The parents had been informed and refused to do anything. The child's condition was pitiable, not to use a stronger word. I shall have the case inspected by the best men in the city, and if they report the need to be as great as it appears I shall actually try to force not only examination, but treatment. In 1910 we found a dozen cases of tuberculosis. I feel sure that our discovery saved the lives of five. Two have gone to a free home for consumptives in Dorchester, where, as per their letters, they are "growing fat." Three have been sent to a state sanitarium, where all are improving. Five went to a tuberculosis camp, where all were benefited. All were cared for in some way.
>
> Two children were found with hip disease, bad cases. Their parents did not know that help was possible. When told, they gladly cooperated in sending the children to a hospital, where after nearly a year of treatment, both bid fair to entirely recover ability to walk. These are a few of the more striking cases in which I am sure we saved life, restored health, gave power to work, relieved pain and added happiness. In all we secured treatment for over 1,100 children.
>
> And strange as it may seem, parents generally like it! Many of them are very earnest in their expressions of gratitude. A few objected to interference with their personal liberty to keep their children as lousy as they pleased and the mother of the child with an ulcer in the ear swore a little at the officer who appeared before her with a warrant charging cruelty to a child, but they are the rare exceptions. Generally parents, not having read your pamphlets and not realizing how they are being abused, approve enthusiastically.
>
> Under the circumstances, therefore, I trust you will excuse us if we keep right on sending our school physicians and school nurse "about doing good" in both schools and homes. Seriously, I would not dare, for my life, to stop this magnificent work. Stopping, I could face neither my God nor myself.

A more effective reply to the objections raised against school inspection could not well be imagined. If the objectors are sincere, this letter is certainly convincing. If they are not sincere, but are fearful lest the work of saving the lives and health of thousands of American school children will imperil their business profits, they will speedily find themselves beneath the contempt of the American people.

It will be difficult to convince the public that in order to secure personal liberty it is necessary to allow 400 school children in one town to suffer from pediculosis. If the members of the National League of Medical Freedom desire the right to cultivate this peculiar form of uncleanness they are quite at liberty to do so provided those compelled to associate with them have no objection, but they have no right, nor will the American public sustain them in demanding the right, to put a stop to the use of any and every means at the disposal of advanced medical science to protect the lives and health of our school children.

COMMUNISTIC OBSTETRIC ATTENDANCE

The municipality of Zurich, Switzerland, has decided to allow the people to vote on the proposition to supply medical assistance and lay attendance free of charge in all obstetric cases in the city, at a maternity or in the home. The only provisions are that the woman must have resided at least a year in the city and the family income not be over $400.

In a communication in the *Correspondenz-Blatt für Schweizer Aerzte*, Häberlin explains why the two medical members of the city council protested against the plan or, at least, against certain features of it. In the first place, he says, the plan is socialism rather than along the lines of insurance. In the latter the recipient contributes something, however small, which principle of self-help for the weak rather than exclusion of his cooperation, is of extreme ethical and economic importance. The plan further conflicts with the present maternity and hospital arrangements with no corresponding advantages, and the expense is not borne by the agencies specially created for such purposes, the poor funds or the sickness insurance societies, but the entire populace is to be taxed for it, while less than a fourth will benefit by it.

The physicians further protested against the assumption that all women should be sent to an institution to be delivered, even though conditions are normal and they prefer to be confined at home. The physicians think that this extension of institutional treatment is based on an exaggerated idea of its advantages. The medical minority were instrumental, however, in having the original plan modified, so as to have even pathologic deliveries at home placed on the free list, a proposition not contemplated at first.

Medical Education and State Boards o Registration

COMING EXAMINATIONS

California: San Francisco, August 1. Sec., Dr. Charles L. Ti dale, 929 Butler Building.

Nebraska: Lincoln, August 9. Sec., Dr. E. Arthur Carr.

New Regulations in Wisconsin

At a meeting of the Wisconsin Board of Medical Examiners held at Madison, July 11-13, 1911, it was decided that hereafter the board will demand documentary evidence of preliminary education in the form either of a high school diploma or a certificate signed by the proper examiner for the state from which the applicant comes showing that he has an equivalent education. Furthermore, the board will require that hereafter all conditions must be made up before the student is admitted to the junior year.

Probably the most important step taken by the board was the resolution providing that in all examinations hereafter practical tests will be required in physical diagnosis, chemical and microscopic urinalysis, bacteriology, pathology, histology and practical anatomy. It is the belief of the board that practical examinations will more clearly demonstrate the real knowledge, possessed by the applicant, of the fundamental problems of medicine.

The new officers and members of the board are: M. A. Barndt, M.D., president, Milwaukee; J. M. Beffel, M.D., secretary, Milwaukee; W. L. Thompson, D.O., Milwaukee; A. B. Bailey, M.D., Fennimore; C. W. Rodecker, M.D., Holcombe; F. Gregory Connell, M.D., Oshkosh; G. H. Ripley, M.D., Kenosha, and H. W. Abraham, M.D., Appleton.

Book Notices

A Treatise on Diagnostic Methods of Examination. By Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with Additions, by Nathaniel Bowditch Potter, M.D., Assistant Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York. Second Edition. Authorized Translation from the Fifth Revised and Enlarged German Edition. Cloth. Price, $6.50 net. Pp. 1229, with 471 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The first edition of the translation of Sahli appeared some six years ago and received our favorable comment at that time. This second edition, a translation from the fifth German edition, is in substance the same as the first, though larger by about two hundred pages, which include much real revision and many additions. The chapter on hemodynamics has been completely rewritten: the various polygraphs and their values are discussed; and numerous additions have been made in the sections devoted to the examination of the stomach and the urine. The same is true of Sahli's excellent chapters on the blood and the nervous system. There are new cuts and two new plates. Altogether, the book is decidedly improved by these changes that help to bring it up to date and to make it more complete than the former edition. The failure to include a discussion of the Einthoven string galvanometer is perhaps excusable, because the use of this instrument is so recent and its value still so unsettled that definite conclusions concerning it cannot yet be stated. We feel concerning the Roentgen ray exactly as does the author: the technic is such that only an expert specialist can be expected to master it. But we believe that Sahli has not emphasized, as he might properly have done, the value of the Roentgen ray as a means of diagnosis in diseases of the heart, lungs, stomach, etc. While indorsing every word said as to the importance of retaining and increasing our skill in percussion and auscultation and while agreeing that much is learned from the history of the illness and from chemical and other laboratory examinations, we feel that one should not reject or minimize the help afforded by the different methods of examinations by the Roentgen ray. The technic may belong to the specialist, but the interpretation of the skiagraph, or orthodiagraph, should be made by the physician. What is said of the value of the Roentgen ray is good, but it is not enough. The American editor has added many pertinent notes and references. Some of the best of the illustrations are also his addition. We miss from the title-page of this edition the name of Dr. Francis Kinnicutt. As was said in the review of this work in 1905, it can be commended as one of the best books we have on the subject.

The Human Atmosphere, or the Aura Made Visible by the Aid of Chemical Screens. By Walter J. Kilner, B.A., M.B. Cantab. Cloth. Price, with screens, $9. Pp. 329, with 28 illustrations. New York: Rebman Company, 1911.

The assertions made in this book are so startling that one is puzzled to know whether the author has indeed made one of the epoch-making discoveries or is the victim of hallucinations, such as may affect even the scientific mind. Briefly, the author asserts that the human body is surrounded by a double aura or atmosphere which is ordinarily invisible to the naked human eye, but which rarely manifests itself to such favored beings as clairvoyants, and which can be made visible to anyone by a certain apparatus for sale with the book. The apparatus consists of thin glass cells filled with colored liquids. The aura thus seen is described as extending several inches beyond the body and as having generally a grayish-blue color. It is claimed to differ in appearance in different individuals, but there is said to be a general resemblance in that emanating from the members of a class, such as men, women or children. The auras of persons affected with disease are said to show characters which the author believes can be utilized in diagnosis. Aside from the aura proper, the author claims to find an etheric double next the body and has noticed the emission of rays from various parts of the body. Another method of examination, which is said to bring out details of importance consists in gazing at the aura or at the skin, with an eye temporarily color-blinded by gazing for some time at a card of a certain color. The complementary color will then be seen over the body and the aura, but, it is said, will be modified in brightness at certain points indicating possible effects of disease.

Such are the author's theory and claims. They are presented with conservatism, lack of knowledge and of sufficient observation to establish certain points being frequently admitted. The assertion that any one can verify these things with his own eyes gives the new claims a possibility of being readily established or refuted by others. The author disclaims all connection with occultism, although he has borrowed the terms used from theosophic works.

It does not seem, however, that the author has proceeded in quite the method which would be expected of a true scientist in recording observations which are to establish a discovery, which, if true, must be regarded as of immense importance. We find no indication of any attempt to confirm the facts by the testimony of other observers. The author is a resident of the great city of London, which contains many men of science certainly capable of verifying the author's claim had the opportunity been offered. Is it not strange that the author should have worked alone, that he should not have submitted his discovery to others before publishing it? Of course, we must grant every discoverer the right to present his findings to the world in his own way, but his apparatus could easily have been tested without impairing in any way his proprietorship in spectauranin screens.

It is suggested that the phenomena observed arise from illusion, due to the tiring of the eye by means of gazing at the light through the blue screen. The observer is cautioned against using the screen too much at first for fear an irritation of the eye may be caused. If, then, the material is capable of affecting the eye so powerfully, may it not be a question whether the shadows seen by such an irritated or tired eye have their origin in the play of the ether about the body viewed, or in irregular vibrations in the retinal or brain-cells of the observer?

While acknowledging that there are many things in heaven and earth not set down in our philosophy, the physician should be cautious about his ventures into the region of ethereal doubles, auras, fluidic members, astral bodies and the like.

Modern Diagnosis and Treatment of Diseases of Children. A Treatise on the Medical and Surgical Diseases of Infancy and Childhood, with Especial Emphasis on Clinical Diagnosis and Modern Therapeutics. For Practitioners and Students of Medicine. By Herman B. Sheffield, M.D. (Co-Author of "Practical Pediatrics"), Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital. Cloth. Price, $4.50. Pp. 619, with illustrations. Philadelphia: F. A. Davis Co., 1911.

There is so much in this book that is bad that the good is almost entirely covered up. The style, which is suitable for a novel, not for a text-book on a scientific subject, may be judged of by such passages as "marvelously extricate themselves from the pangs of death," "verily considering the baleful acts," "one is amazed by the ever-swelling hordes of youthful humanity that have apparently escaped the clutches of ignorance—and death. Merciful Nature!" Water is spoken of as "heavenly beverage." Under the heading "Gastro-enterocolitis" the subject is handled just as the name indicates—namely a jumble of material that gives one no clear picture of any of the disturbances described. Very little help is afforded the student or practitioner by such statements as the following: "As patient improves a milder course of treatment is of course resorted to."

The pathology is especially weak; one might think that the book had been written fifty years ago if one were to judge by this bit of information: "The lymph in the lungs degenerates into fibrous tissue and caseous matter" (p. 272). Happily there are some redeeming features, as for instance the introductory chapter on the examination of the patient and the many excellent original photographs. The chapter on malformation is complete, the one on spasmophilia, however, just misses the mark because several members are added to the group that do not belong to it, and the others are considered separately as though they were not dependent on the same hypersensitiveness of the central nerve system. It is not in tetany alone that one finds Erb's and Chvostek's signs but also in laryngismus stridulus and eclampsia infantum.

A Text-Book of Medical Diagnosis. By James M. Anders, M.D., Ph.D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College of Philadelphia, and L. Napoleon Boston, A.M., M.D., Adjunct Professor of Medicine, Medico-Chirurgical College. Cloth. Price, $6 net. Pp. 1195, with 443 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The authors of this volume have endeavored to encourage individualization in the examination of patients by a method of investigating the disease which brings the entire organism under consideration. A brief pathologic definition is given of each disease, after which the more prominent points in symptomatology are described, followed by an account of physical signs and laboratory diagnosis where applicable. In several cases there is also a section on differential diagnosis. Diseases receive the usual classification and preceding each division, such as diseases of the respiratory organs, stomach, etc., a brief account of the general methods of diagnosis is given, but the special signs are described under each disease. A careful examination shows that the methods are accurately and clearly given and the latest information is introduced. A peculiar feature, the utility of which may be questioned, is the presentation of numerous views showing the gait of patients in the various nervous affections. These pictures are entitled "moving pictures," but the motion must necessarily be provided by the imagination of the reader. This work has the decided advantage of combining in one volume the various methods of physical, clinical and laboratory diagnosis. This ought to be a useful corrective to the tendency to overestimate any of these various methods. We are surprised, however, to find that the descriptions of laboratory methods are by no means complete. For instance, there is no description of a method for the detection of sugar in urine and the chemical methods for examining urine for bile and blood are not described, but are dismissed with the statement that other methods are preferable. This must be regarded as a serious defect of the work as the addition of a few pages would have put the practitioner in possession of technical details for which he must now consult other text-books.

Nevertheless, this well-illustrated volume must be regarded as worthy of a place among the essential text-books for the medical practitioner.

Food and the Principles of Dietetics. By Robert Hutchison, M.D., Edinburgh, F.R.C.P., Physician to the London Hospital. Third Edition. Cloth. Price, $3 net. Pp. 615, with illustrations. New York: William Wood & Co., 1911.

This book is so well known and has become so popular since it was first issued in 1900 that it is not necessary to discuss it in detail. In this edition it has been thoroughly revised and 67 pages have been added to it since it first appeared. One new chapter appears in this edition entitled "Some Dietetic 'Cures' and 'Systems.'" In it the nature and usefulness of a vegetarian and lacto-vegetarian diet, a purin-free diet, Dr. Hare's system, which is a proteid diet chiefly, an exclusive proteid diet, a salt-free diet and sour-milk diet are considered briefly but judiciously. Most of the additions to the volume are to the chapters and sections devoted to diet in diseases. Dr. Hutchison's book is certainly one of the best of the many which have been published during the last dozen years.

Cesarean Section in Great Britain and Ireland. With Tables of 1,282 Cases of Cesarean Section by over 100 Living Obstetricians and Gynecologists in Great Britain and Ireland. By Amand Routh, M.D. (Lond.), F.R.C.P. (Lond), Obstetric Physician to Charing Cross Hospital, London. Being a Report on the Subject read at the V-me Congrès International d'Obstétrique et de Gynécologie at St. Petersburg in September, 1910. Cloth. Price, 5 shillings net. Pp. 233. London: Sherratt & Hughes, 34 Cross Street, Manchester, 1911.

This carefully compiled abstract of cases of Cesarean section, embracing all the cases that can be certified to by the operators, is preceded by a discussion of the indications for the operation, its relation to other operations that come in competition with it and the technic of the operation as performed in Great Britain. Reference to the most important literature is given and the names of the operators are listed. It will be seen that this report will be of value not only to all teachers of obstetrics but to practical obstetricians who need to keep informed on all important literature on this subject.

Medicolegal

Constitutionality and Construction of Medical Practice Act—What Constitutes Practice of Medicine and Surgery—Test—Chiropractor Violates Law

(State vs. Smith (Mo.); 135 S. W. R. 465)

The Supreme Court of Missouri, Division No. 2, affirms, in this case, a conviction of a chiropractor of the offense of treating and attempting to treat the sick and afflicted without first having obtained a license from the State Board of Health.

The statute (Missouri act of 1901) involved does not, in its title, the court says, violate the requirements of the state constitution. The act contains one subject, which is clearly expressed in the title. The title to the act is not "Medicine and Surgery," as the defendant asserted it to be in his brief. The words "Medicine and Surgery" are merely the caption. The title to the act is as follows: "An act to regulate the practice of medicine, surgery and midwifery, and to prohibit treating the sick and afflicted without a license, and to provide penalties for the violation thereof." The one "subject" of this act, within the meaning of the constitution, is, broadly speaking, public health.

Treating the sick is well within this subject, and is specifically covered by the title. It is unnecessary to cite the cases in this state on this proposition. This court has again and again, with patient repetition, expounded the law on this constitutional provision, and the law so expounded is this: Where all the provisions of a statute fairly relate to the same subject, have a natural connection with it, and are the incidents or means of accomplishing it, then the subject is single, it is sufficiently expressed in the title, and the statute is valid. The practice of medicine or surgery, and the treatment of the sick by whatever means employed, are certainly germane to each other, and are germane to the general subject of health. If all the provisions of a bill have a natural relation and connection, then the subject is single, and this, too, though the bill contains many provisions. If the treatment of the sick and the practice of medicine and surgery are not in natural relation, then it will be difficult to conceive of a case where two or more provisions in a bill relate to each other.

The defendant contended that the general words in the statute, "attempting to treat the sick," should by application of the rule of *ejusdem generis* (limiting general words after specific), be limited to attempts to treat by medicine or surgery, which are the special words preceding. But a review of the history of the law affords a complete answer to the claim that the doctrine of *ejusdem generis* applies to this case. It is not a case of general words following a specific designation. There might be some ground for the claim if the general words, "treat the sick," were in the original act, but, until 1901, the only designation was "medicine and surgery." No one will claim that the general words, "and any person attempting to treat the sick," added by amendment, are *ejusdem generis* (of the same kind or nature) with the specific words of the original act. Certainly, the words "medicine or surgery in any of its departments" exhaust the genus or class. It is obvious that the legislature, by this amendment, intended to include those who practice neither medicine nor surgery in any of its departments, but who profess to cure, and who treat or attempt to treat, the sick by means other than medicine or surgery. Evidently the legislature, in order to guard the overcredulous against injury that might result from yielding to the solicitations and professions of men who ignorantly undertake to diagnose and treat human ailments, deemed it proper, in the exercise of its police power, to require all persons who undertake to so treat the sick to show that they possess the qualifications which the lawmakers prescribe as essential.

Next, the defendant argued that the record showed that he did not "treat" his patients. He called what he did, not "treatment," but "adjustment." He said that he did not treat disease; he "adjusted the cause." But, call it what you will, the fact remains that the system of practice called in this case "chiropractic," as explained by the defendant's witnesses and his counsel, involves both diagnosis and physical treatment. The defendant and his witness testified that they made no diagnosis: took no temperature; did not examine the tongue of the patient, nor any part of the body except the spinal column; that they did not treat the disease, but removed the cause, which is invariably found—no matter what the disease, whether consumption, small-pox, or any other ill that flesh is heir to—located in the spine, and in every case consists in an impingement of the nerves caused by a "subluxation"—whatever that may be—of the vertebræ. Yet, notwithstanding all this, the practice does involve skill, knowledge of anatomy, diagnosis and physical treatment.

It is a serious question whether the defendant would not come within the original statute as one practicing medicine or surgery. The practice of medicine is not confined to the administration of drugs; nor is surgery limited to the knife. When a physician advises his patient to travel for his health, he is practicing medicine. Broadly speaking, one is practicing medicine when he visits his patient, examines him, determines the nature of the disease, and prescribes the remedies he deems appropriate. Tested by this rule, the defendant was practicing medicine when he examined the patient's back, determined the trouble to be that a vertebra was subluxated, thereby impinging on a nerve, and proceeded to employ what he considered an appropriate remedy, namely, a sudden downward pressure with the fingers, thereby adjusting the vertebra and relieving the impingement. When the defendant says that he does not "treat," but "adjusts," and that he deals not with the "disease," but with the "cause," he is merely juggling with words. Changing the name does not change the thing.

In the main, the cases regard diagnosis as the test to determine whether a practice or treatment is included in the terms "medicine" and surgery." This is a practical test. A physician who advises his patient to sleep in the open air is treating him. Such advice, however, is based on a knowledge of the patient's condition obtained by diagnosis. The defendant professed to be able to ascertain by examination of the patient the cause of his trouble—a result rather beyond that which ordinarily attends the diagnosis of the regular practitioner. The method or extent of the examination is not the controlling feature. When the practitioner makes such examination of the patient as he regards as sufficient to indicate to him the cause of the trouble, and to indicate its proper treatment, he has diagnosed the case.

Nor does the court agree with the contention that so to construe this statute as to forbid any one to treat the sick without possessing the technical knowledge required to pass an examination before the State Board, where such treatment does not involve such technical knowledge, will result in denying to the people a constitutional right to determine how they shall be treated, and also in denying to citizens the constitutional right to pursue a lawful calling for a livelihood.

The court cannot say that an act which forbids treatment of the sick by one not possessing certain technical knowledge evidenced by a license bears no reasonable relation to the purpose sought to be accomplished by the legislature, namely, the protection of the public health. The legislature thought, perhaps, that this act was necessary to protect credulous sick people from injury at the hands of charlatans and quacks, with their specious promises of a sure cure without drugs; or it may have been thought necessary to forbid harmless practices in order to insure protection against those that are dangerous and hurtful. Sick people sometimes grow desperate in their search for a cure, or their judgment becomes weakened, so that they fall an easy prey to the ingenious and varied devices of the pretended healer. We know that some people are prone to give more weight to a skilfully worded advertisement than to the advice of a competent physician. The legislature, no doubt, thought that in view of all these considerations the welfare of the people required the sweeping law of 1901. The method of practice disclosed by this record may be harmless and useful, but it is a treatment for the sick, related, to say the least, to the practice of medicine or surgery, and so is within the terms of the statute. The legislature may have been mistaken in thinking it necessary to forbid such a method of practice, but the act was passed in the exercise of its police power, and the court is not prepared to say judicially that such exercise of the power was either unreasonable or capricious, or that it bears no relation to the public health.

Waivers of Privilege

(Woods vs. Incorporated Town of Lisbon (Iowa), 130 N. W. R. 372)

The Supreme Court of Iowa says, in this personal injury case, that the statute of that state does not absolutely disqualify the physician from testifying, but it places it within the power of the patient to secure medical aid without the betrayal of his confidence. The patient may, therefore, waive objection, and, the statute expressly provides, permit the physician to testify. The waiver may be made in several ways: It may be done by calling the physician to testify as to privileged matters or by calling other witnesses to testify to the same facts. Manifestly, if the patient himself breaks the seal of secrecy and gives publicity to the whole matter, there is a waiver, and this is true whether publicity is given by the testimony of the physician, by the testimony of the patient himself, or by the testimony of his other witnesses. In other words, when the patient voluntarily publishes the occurrences of the sick-room, he cannot be permitted to insist that the prohibition and privilege of the statute continues to exist as to his physician. If by his voluntary act he lifts the veil, the professional duty of secrecy ceases, and the physician is a competent witness under the statute. It would be a reproach to the administration of justice, even in the absence of the statute, if the patient himself might detail all that occurred with his physician and yet compel the physician to remain silent.

In this case privilege was waived as to the plaintiff's attending physician by the plaintiff testifying at length as to the bearing-down pains she suffered and what the physician did. Privilege was also waived as to a hospital operation, by the plaintiff going into the details thereof. Then, where two or more physicians are engaged in the same operation, a waiver of the prohibition of the statute by making public the otherwise privileged matter, makes them all competent witnesses.

Nature of Action to Recover Penalty for Practicing Medicine Without a License

(People for Use of State Board of Health vs. Gartenstein (Ill.), 94 N. E. R. 128)

The Supreme Court of Illinois affirms here a judgment for the plaintiff in an action of debt begun in the municipal court of the city of Chicago to recover the statutory penalty of $100 for practicing medicine without a license. The court does not consider that this was a "prosecution," within the provision of the state constitution that all prosecutions shall be carried on "in the name and by the authority of the people of the state of Illinois," and conclude "against the peace and dignity of the same," but that it was an action for debt. The suit in this case, the court says, was neither criminal in form nor substance. It was not a crime at common law to practice medicine without a license, and the statute does not make it a crime. Where an offense is created by statute and a penalty is fixed for its commission, which is to be recovered by an action of debt and not by prosecution, the action is civil, and rules of criminal procedure do not apply to it. To practice medicine without a license is no more a crime, either in its nature or by the statute, than to peddle without a license, and in Webster vs. People, 14 Ill. 365, where the action was to recover a penalty for peddling without a license, it was held that the suit was not criminal, either in form or substance; that the act was not an offense at the common law, nor indictable under the statute; that it was not necessary to prove guilt beyond a reasonable doubt; and that either party might appeal. The fact that the defendant may be committed to jail as a method of collecting the debt does not fix the character of the suit as a prosecution. Nor was there error in a refusal to grant an appeal to the criminal court, because there was no statute authorizing an appeal from the municipal court to the criminal court and fixing the terms and conditions of such appeal. The method provided for the review of judgments of the municipal court is a writ of error from this court or the Appellate Court...

Society Proceedings

COMING MEETINGS

Colorado State Medical Society, Steamboat Springs, Aug. 15-17.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting, held at Denver, June 19-21, 1911

The President, Dr. Richard H. Harte, in the Chair

The officers elected were named in The Journal, July 22, p. 302.

Surgical Treatment of Epispadias in the Female

Mr. Harold J. Stiles, Edinburgh, Scotland: In two cases I successfully transplanted the ureters into the pelvic colon. If a routine examination of the vulva were made of all children suffering from incontinence of urine, the condition would be shown to be less rare than is supposed. As regards treatment, it is a comparatively simple matter to obtain a satisfactory cosmetic result by restoring the anterior commissure and uniting the two halves of the split clitoris. It is far more important, however, to get rid of the incontinence which results from the imperfect development of the urethra and vesical sphincter. This I succeeded in doing by dividing the ureters close to the bladder, ligaturing the distal stump, and then transplanting the proximal ends into the lower part of the pelvic colon by the intraperitoneal route, implanting the ureters very obliquely into the bowel by a modification of the Witzel gastrostomy principle. One ureter is transplanted at a time, three weeks or so being allowed to elapse between the two operations. In the first patient the right ureter was double, but this did not materially complicate the operation. Both patients made an uninterrupted recovery. The operations were done rather more than three years ago. The younger child, now 6 years old, had no incontinence during the daytime, but she occasionally wetted the bed during the night. The older child, now aged 10 years, had no incontinence whatever, and did not have to empty the rectum oftener than every three or four hours. Both children are well, and there is no sign of kidney trouble.

DISCUSSION

Dr. John B. Murphy, Chicago: The failure to get good results in these cases is due not to the fact that the sphincter is not there, for it is there in every case, but that we do not sufficiently liberate the walls of the bladder and of the base of the urethra, in order to get an approximation of the layers of the urethra, before we produce a condition of retention of urine in the bladder itself. There should be a primary operation on the surface of the bladder and urethra before an attempt is made to close the bladder. In the type where the urethra has penetrated the clitoris and appears on the under surface of the symphysis with just a thin web between the urethral lining and the symphysis, an extensive dissection must be made to bring the bladder down and expose its neck for approximation.

Dr. Howard Lilienthal, New York City: I would like to call attention to a method employed by Dr. Guiteras. After performing the sphincter work, the putting of a small rubber catheter into the ureters and keeping it there during the time of the healing of the plastic work above obviates the constant flowing of the urine over the operated parts.

Dr. Charles H. Mayo, Rochester, Minn.: Several times I have had to remove the bladder for malignancy in the adult. I have brought the ureters out into the back in two cases. It seems to me this method described by Mr. Stiles opens up a wide field for cancer of the prostate and of the base of the bladder involving the trigone.

Dr. James E. Thompson, Galveston, Texas: I do not think sufficient time has elapsed since Mr. Stiles operated in the cases he reports for us to say with any certainty that an infection will not pass up the ureter to the kidneys. I have seen two cases in which the ureters were transplanted into the pelvic colon; one patient did splendidly for three years and a half, was apparently in perfect health, then suddenly fell sick and died in three or four months; the post mortem showed the kidney riddled with abscesses. The other patient lived for about four years and a half, with the same fatal termination.

The Open Treatment of Fractures

Dr. Edward Martin, Philadelphia: In the treatment of transverse or nearly transverse fractures of the femoral shaft, the plating method is far superior to all others. The indication for the open operation is failure to produce partial or complete apposition of broken ends. The incision recommended is one to the outer side of the rectus muscle going through the crureus and coming at once on to the fracture. The method of reduction is that which can be accomplished with the least stripping of periosteum and soft parts, sometimes an iron hook passed into the medullary cavity of the upper end of the lower fragment suffices, aided by longitudinal traction applied to the ankle, or when the lower fragment is tipped back by this traction, by applying the pull just below the bent knee. When the lower fragment cannot be hooked in position this way it is advisable to angle out the fragments, oppose them and straighten the leg, thus using powerful leverage on the resisting muscles. When none of these methods are applicable, and this is usually the case in fractures of more than three or four weeks' standing, the middle of a canvas band is placed over the upper end of the lower fragment; to the long ends of this band are fastened from 100- to 200-pound weights, the band is prevented from angling out by direct pressure through gauze pads, and a wait of from five to ten minutes usually not only accomplishes complete reduction, but a little lengthening. One-quarter of an inch should be obtained before the traction band is taken off. Sometimes more than 200 pounds' pull is required. In old cases where the shortening is so great that it cannot safely be overcome by traction, resection of bone ends is, of course, indicated. Accurate apposition very often requires the application of forcible pressure.

The ultimate results are infinitely better than could be obtained by any conservative means. There was one death immediately after prolonged and forceful efforts toward reduction of fractures of both femora treated some four weeks after injury. The death was due to shock.

Fixation of Oblique Fractures by Bone Clamps Applied Through Small Punctures in Skin

Dr. Leonard Freeman, Denver: A screw with a long projecting end is inserted through a small hole in the skin into the upper fragment, well above the fracture, and another into the lower fragment in a similar manner. The fracture is then reduced by manual extension, and the projecting screws fastened together outside the skin by a firm external clamp, thus preventing over-riding of the fragments. The statement is frequently made that external bone clamps are apt to lead to serious infection, but in the opinion of the author this is not true. If the operation is a clean one, serious infection will not occur. On the other hand, if the operation is not clean, suppuration will take place with any method, but the result will be less disturbing in the presence of the drainage afforded by the screws of an external clamp; and, furthermore, in case of infection, these screws can much more easily be removed than can buried plates, ferrules or wires, with far less inconvenience to the patient and without the use of an anesthetic. To this may be added that properly applied external clamps hold the bones more firmly than do other appliances, and when they are removed the dangers of future complications are done away with completely. The method may also be used in certain other oblique fractures especially those of the clavicle and lower jaw.

Discussion on Papers by Drs. Martin and Freeman

Dr. John B. Roberts, Philadelphia: Dr. Martin speaks of pulling down the lower fragment with 100 pounds; this, I think, is too much. Equally good results can be obtained by the ordinary old-fashioned pulleys with Buck's extension. Pins such as Dr. Freeman describes do not, as a general rule, suppurate, and if suppuration should occur it can readily be controlled.

Dr. Thomas W. Huntington, San Francisco: In dealing with recent fractures we must adopt the rule that the least possible foreign material must be placed under the skin, and with a reasonable hope of its being retained. This does not necessarily mitigate or affect the general question as to the propriety of operative procedure, even though we do now and then have to remove a plate, staple or wire, but the least possible number of removals will tend very largely toward establishing the legitimacy of this undertaking. A point of great importance is, that the further away from the skin you can place your foreign material, the more secure you are in retaining it permanently. A case of fracture of both bones of the forearm in a young girl who gave promise of being a very good pianist, was treated with staples in the radius, and now, fourteen months after the injury, the patient does not know whether she had a fracture or not, the function has been so perfectly restored.

Dr. A. T. Bristow, Brooklyn: One point I would like to call attention to in the after-results. We operate, the patient becomes infected, we jump to the conclusion that the infection is the result of the operation, failing in almost every instance to take into consideration the possibility of a pathogenic infection, a sore throat, etc. Very often the infection is hematogenous in character and not due in any way to the operative procedure.

Dr. Joseph Ransohoff, Cincinnati: I do not believe that this open method of treatment should be generalized, for in my judgment it is one of the most dangerous operations in hands not thoroughly competent in everything pertaining to surgical technic. A most important point is the time at which an operation should be performed. I think either at the time of fracture, or at least within a week thereafter: the longer one waits, the longer the deformity exists, shortened muscles and thickened periosteum, and the more difficult to reduce or wire, and the more difficult to keep the shortened muscles in apposition. We cannot pull too hard on the femur, for it takes at least from 45 to 65 pounds to overcome the pull of the strong musculature around the thigh.

Dr. Fred B. Lund, Boston: One reason, I think, why we have not been more in favor of operating on the femur has been that we have not had the proper apparatus. Do not put on two plates where one will hold. The plates are good in fractures in old people and in those who will not wear cumbersome apparatus. I have operated on twelve cases: in two I had to take out the plates on account of suppuration, one three weeks after operation, and one twelve days. Both were cases of fracture of the forearm, which are very difficult to treat on account of the smallness of the bones. In plating the femur you should have a strong apparatus and should make the size of the foreign body introduced just as small as possible.

Dr. Arthur Dean Bevan, Chicago: I do not believe in the routine employment of the open treatment for fractures, but do believe that this treatment has a very sure place in selected cases in the hands of experienced surgeons. We should employ it in cases in which we find from experience that we cannot obtain a good, useful, functional and clinical result by less dangerous procedures.

Dr. Alexander Primrose, Toronto, Canada: A class of cases very applicable to this treatment is that of fracture at the upper end of the humerus where deformity is caused by rotation. With regard to the use of the open method in compound factures, I think in an aseptic wound where there is sufficient drainage, that the method is of value.

Dr. Arpad G. Gerster, New York City: In several cases of fractures, generally comminuted, involving the lower end of the humerus, of the T or Y shape, where one or both condyles of the humerus have been broken off in such a fashion that no amount of manipulation or fixation by the older methods will be sufficient to reduce the bones into the normal position and so retain them, I have found the plating of very great value; no disagreeable dressings were necessary; the union was very prompt.

Dr. M. L. Harris, Chicago: The use of plates in compound fractures of the leg I have found to be extremely useful. In the severe compound fractures ground full of dirt, in which there is certain to be suppuration, and which are extremely difficult to maintain in apposition by any method of dressing owing to the fact that they must be kept open and drained, I have used plates (knowing they must be removed later) to hold the bones in apposition. This forms a simple, easy fixation dressing with the wound open, thereby materially facilitating the draining of the wound and shortening the period of healing.

Dr. Stanley Stillman, San Francisco: In very heavy individuals the necessity of plating a fracture of the femur is imperative. I use very small and light plates. In fracture of both bones of the forearm, if you get the bones in place, there is not much tendency to displacement unless the fracture is very oblique. In simple fractures, where accurate and absolute apposition has taken place, recovery is usually very slow; the amount of callus thrown out is slight; better and quicker healing is obtained where the apposition is not so accurate.

Operative Cure of Internal Hydrocephalus

Dr. E. Wyllys Andrews, Chicago: Cases of acquired, obstructive hydrocephalus, rather than congenital hydrocephalus, are the ones curable by operations. Operative treatment by drainage can be carried out from various sides, spinal canal, fourth ventricle or lateral ventricles. The difficulty lies in making this drainage permanent without endangering the meninges from sepsis. The drainage of the ventricles must be into some absorbing cavity. Cases in which gold or iridioplatinum tubes were made to connect the lateral ventricle and the subarachnoid space, caused permanent reduction of the distended ventricle. Rapid and permanent cure of one almost hopeless case followed the use of a light glass tube. The glass was used as less irritating and lighter substance than metal, and seemed to give better results. Skiagrams taken after five years showed the tube 2½ inches long exactly in the position placed by me. I therefore advocate the use of glass suitably molded in all these cases. It is absolutely inert to all chemical changes in the body fluids, and is safe against breaking enclosed in the skull.

DISCUSSION

Dr. Lewis L. McArthur, Chicago: The idea came to me, after reading an article by McBurney some years ago, that if instead of draining on the surface of the body, as he had tried to do, I drained through the bony vault beneath the scalp into the cellular tissue of the neck, I would be able to secure a permanent drainage. I found a silver cannula, such as is used in the veterinary departments for milking cows, which having a small flange would prevent its dropping into the skull, and would also prevent its falling out. I used this cannula with much success. The child, from being nervous and irritable, became much more normal in every way, although it died three years after my operation from an intestinal complaint contracted during warm weather. I have operated in two other cases after a similar manner also with good results.

Dr. George E. Brewer, New York City: In 1898 I attempted in a case of internal hydrocephalus to drain the ventricle into the subdural space by the method of making a flap in the back of the head and exposing the posterior lobes, and above this space exposing the tentorium; then, by a puncture into the lateral ventricle, I introduced a small filament of rubber tissue flared to make a number of strands which did not totally close; the flanged surface lay on the tentorium and the perpendicular portion entered into the cavity of the lateral ventricle. The child recovered from the operation, but lived only six or seven weeks. The head diminished in size and the symptoms grew no worse. I tried the same method in two or three other cases, but did not feel that the results warranted my continuing in the use of it. I do believe that any method which will allow the fluid to pass from the ventricles into the subdural space will be found ideal.

Dr. Joseph Ransohoff, Cincinnati: I have tied the common carotid arteries in two children suffering from internal hydrocephalus, with most gratifying results. With regard to the introduction of a foreign body to permit of permanent drainage of the ventricles, it is a simple matter to make a drill hole near the median line and through it pare off the corpus callosum, thus establishing efficient and permanent drainage without leaving anything in the interior of the skull to give rise to possible later trouble.

Dr. Charles H. Frazier, Philadelphia: I recently tied the common carotids in such a case. The child is still in the hospital, but a few days ago was in extremely good condition.

Mr. Harold J. Stiles, Edinburgh, Scotland: In congenital hydrocephalus there is no blocking of the passages at the fourth ventricle; indeed, the foramina in the roof of this ventricle are much larger than normal. That being the case, I do not think you can expect any form of drainage to do good in congenital hydrocephalus. I have never derived anything but temporary benefits from such methods. In congenital hydrocephalus there is a disturbance between the balance which should normally exist between the secretion and absorption of the cerebrospinal fluid. The indication is to diminish the secretion by ligaturing the common carotids, the one a fortnight after the other. The operation should be done early in the disease. I have never found it to do any good when the hydrocephalus is associated with spina bifida. In acquired hydrocephalus the indication is to drain the ventricle, because these forms are due to obstruction.

(To be continued)

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-Seventh Annual Meeting, held at Baltimore, May 11-13, 1911

The President, Dr. H. M. Thomas, Baltimore, in the Chair

Officers Elected

The following were elected president and secretary, respectively, for the ensuing year: Dr. W. N. Bullard, Boston, and Dr. Alfred R. Allen, Philadelphia.

Analyses of the Results of Rhizotomy in the Treatment of the Spastic State of Cerebral Diplegia

Drs. L. Pierce Clark and Alfred S. Taylor, New York: The value of the operation does not consist simply in securing a better gait. The hope of further mental development is in no small degree bound up in the freedom of movements of the extremities which is made possible after rhizotomy. From a summary of all the cases it may be said that in operating on the lower extremity, the posterior roots of all five lumbar and the first two sacral enter into consideration. In a general way, it suffices in spastic palsy of the leg to resect the second, third and fifth lumbar and second sacral in mild cases; or the third and fifth lumbar and second sacral if the spasticity is attended by adductor spasm largely; or the third and fifth lumbar and first sacral if one desires to limit the completeness of the relief. In very severe cases, however, where there is extreme flexion of the knee, the second, third and fifth lumbar and first sacral or the first, second, third and fifth lumbar and the first and second sacral should be resected. In brachial spasticities, perhaps the best and most complete results follow resection of the fourth, fifth, seventh, eighth cervical and first dorsal roots. It should be borne in mind that a part of the spastic conditions should be left as a physiologic brace for the paretic muscles.

DISCUSSION

Dr. Joseph Collins, New York: The more experience I have with this operation, the more I am convinced that its limitations are very narrow. During the past year I have had the operation done in one case each of spasticity due to disseminated sclerosis, old infantile paralysis, Little's disease occurring in an imbecile child, focal hemorrhagic encephalitis, occurring in the second year of life, and in a birth palsy. In only one of these cases, a child with hemorrhagic encephalitis, has the operation been of any benefit. In that case the results have been brilliant. I am of the opinion that this operation will finally be restricted to those forms of diplegia which are the result of inflammatory or hemorrhagic processes dependent on trauma.

Dr. Carl D. Camp, Ann Arbor, Mich.: I recommended the operation in a case of spastic paraplegia due to myelitis. There was marked spasticity in both legs. The operation consisted of resection of the second, third and fourth lumbar nerve roots. The result was less spasticity and less contracture. Unfortunately the patient had a chronic enteritis at the time of operation which caused death two months later.

Dr. Smith Ely Jelliffe, New York: If the hypothesis of the condition is correct, namely, that the increased spasticity can be relieved by cutting off of certain sensory incoming impulses, then, in the cases to be operated on a clear notion must be held in relation to what sensory impulses are going to be cut off by the operation.

Dr. J. Ramsay Hunt, New York: Is there not a certain risk in cutting only a part of the root? Might there not form there a little tissue nodule which would irritate the fibers that have not been cut and that might retard the result some and produce a sort of false neuroma?

Dr. W. G. Spiller, Philadelphia: Most cases of myelitis are not benefited by the operation because there is a destruction of the motor fibers, and paralysis which is in the same degree or in greater degree than the spasticity. I have had a case of traumatic myelitis in which the benefit from operation was great. In that case the spasticity was far in excess of the paralysis. Of course, the operation is not suitable for spasticity due to disease of peripheral neurons.

Dr. Alfred S. Taylor, New York: It would be wise to operate in cases which offer indication and to observe effects, without specifying too definitely which patients shall and which shall not be operated on. In regard to Dr. Hunt's question concerning partial root section, that operation has appealed to me in those cases where the spasticity covers a large group of muscles. Instead of leaving one root entirely alone we could spread the effect by dividing portions of roots. Whether the theory that a neuroma might form or not, is correct, I do not know. Some of the patients were operated on three years ago and there is no evidence of difficulty arising from that source.

Chronic Hypertrophic Spinal Pachymeningitis

Drs. C. K. Mills and Edward M. Williams, Philadelphia: From the diagnostic point of view this subject is of the utmost importance. The diagnoses made included grave hysteria with inability to walk, circumscribed serous meningitis, rudimentary or supernumerary ribs, syringomyelia and even for a brief season in some of the cases amyotrophic lateral sclerosis. The Charcot-Jouffroy classical type of cervical hypertrophic pachymeningitis was closely simulated in one of our cases; nevertheless, the meningeal and cord lesions were much more widely diffused than in cervical hypertrophic meningitis as usually considered. The case was that of a woman about 45 years old who suffered with recurring pain in the shoulder and arms, especially on the right side; who developed paralysis with atrophy in the distal portions of the upper extremities, impairment of power with exaggerated and abnormal reflexes in the lower extremities and also in the upper extremities dissociated anesthesia, the changes in pain and temperature sense, especially the latter, being much more marked than those for the other forms of sensibility. A striking feature in the case was the great variability in some of the main features of the syndrome. Early in the history of the case the patient lost the ability to stand or walk, regaining and losing it again, and even late in the case the loss of power changed almost from day to day. Foot coldness and the Babinski reflex were present on one day and two or three days later were absent or very slightly marked. Even sensory conditions varied from time to time. Operation revealed marked thickening of the inside of the dura with flattening and displacement of the cervical cord, but the lesions were evidently too diffuse to warrant any attempt at removal of the thickened membranes. The patient died two or three weeks after the surgical procedure and necropsy revealed widespread internal pachymeningitis most definite in the lower cervical and upper thoracic region, but present throughout the entire length of the vertebral canal. The cord was compressed and in some places invaded. The vessels both of the membranes and cord substance were sclerotic, changed in caliber and in some instances obliterated.

Regeneration in the Sensory Root of the Fifth Nerve

Dr. T. H. Weisenburg, Philadelphia: The patient, a man of 30, had pains in the face for seven years for which there were first performed peripheral operations; finally, most of the Gasserian ganglion was removed and the sensory and motor roots cut. Two days after this the pain returned in spite of the fact that there was persistent anesthesia in the fifth nerve distribution. The pains were in the lower part of the jaw within the mouth, back of the tongue and would radiate at times to the ear and down the throat to the shoulder; were especially severe on swallowing and were not of the character that are present in tic douloureux. The patient lived for three years after the ganglion was removed. At necropsy there was found a cerebello-pontile tumor, which grew on the fifth nerve and compressed the pons and so separated the cerebellum from the former that it stretched the ninth and tenth nerves. During the man's life the lingual, the great occipital and the cervical nerves were removed. The recurrence of the pain in this patient was undoubtedly the result of irritation of the ninth nerve. In a study of the sensory and motor fifth roots distal to the tumor there were found distinct evidences of regeneration, marked in the motor root, slight in the sensory. These evidences of regeneration consisted in the formation of definite myeline sheaths and to a less extent of axis cylinders. There was hardly, however, enough regeneration to account for the return of pain.

Rachiocentesis (Lumbar Puncture) in the Treatment of Aural Vertigo

Drs. James J. Putnam and C. J. Blake, Boston, Mass.: Sixteen patients with aural vertigo were treated by us by means of lumbar puncture. The best cases are those in which the symptoms do not indicate any very considerable disorganization of the labyrinth or any high degree of middle-ear disease, but rather an increase in functional excitability. Sometimes the favorable result is obtained at once, sometimes only after some days. Occasionally a second puncture is required. The amount withdrawn is usually 15 to 20 c.c. The only untoward result thus far observed is headache, which may last some days or even a week or more. Good results are obtained in a considerable proportion of the cases.

The Sensory Tract in Relation to the Inner Capsule

Drs. William G. Spiller, Philadelphia, and Carl D. Camp, Ann Arbor, Mich.: In two cases seen by us and studied by microscopic serial sections, the lesion was very sharply defined, the separation of the sensory from the motor tract seems to have been clearly demonstrated, and it may be concluded that the sensory fibers are posterior to the motor, although some of the sensory fibers may pass through the posterior part of the lenticular nucleus.

A Pathologic Study of Türck's Bundle

Dr. John H. W. Rhein, Philadelphia: I have studied two cases. In the first case the three temporal convolutions were entirely atrophied or degenerated and the atrophy cut in large part the optic radiation of Gratiolet and the fasciculus longitudinalis inferior. The fasciculus of Türck was totally degenerated in the foot of the peduncle, though there were a few stained fibers demonstrable in the subthalamic region and some fibers which were probably not longitudinal ones in the foot of the peduncle. The second case showed atrophy of the middle portions of the second and third temporal convolutions with degeneration of the white matter of the first temporal convolution and slight atrophy of the posterior portion of the first temporal convolution. The fasciculus longitudinalis inferior and the optic radiation of Gratiolet were markedly implicated at the level of the subthalmic region. The fasciculus of Türck was in the main preserved, though its volume in the foot of the peduncle was perhaps reduced somewhat. It seems from this that fibers from the occipital lobe do not figure greatly in the formation of the fasciculus of Türck, nor do the fibers from the middle portion of the second and third temporal or the posterior part of the first temporal convolution.

Deviation of the Tongue in Hemiplegia

Dr. Ernest Jones, Toronto, Canada: Three hundred and thirteen cases of hemiplegia were investigated. In 104 cases the tongue was protruded toward the paralyzed side (typical), in forty cases towards the opposite side (atypical), i. e., the contralateral geniohyoglossus was paralyzed nearly three times as often as the homolateral. In sixty-seven cases the tongue could be put into the cheek on the side of the lesion more easily than into that on the side of the paralysis (typical); in twenty-one cases the reverse was the case (atypical), i. e., the contralateral styloglossus was paralyzed more than three times as often as the homolateral. The two atypical symptoms did not tend to occur in the same cases, so that four sets of cases are to be distinguished. There is every reason to believe that the geniohyoglossus, the muscle of most significance in this connection, is represented in both hemispheres. The experimental evidence would seem to show that it is chiefly represented in the homolateral hemisphere, and the clinical evidence that it is chiefly represented in the contralateral. Beevor's explanation of lateral deviation is incomplete, and does not account for all the facts just stated. A final explanation is impossible until the course of the corticohypoglossal tracts is more fully elucidated. The four symptoms just mentioned can probably be accounted for by a varying implication of the four different corticohypoglossal tracts that proceed from each hemisphere; this may depend either on a variation in the crossing in different cases or on a variation in the position of the lesion.

DISCUSSION

Dr. T. H. Weisenburg, Philadelphia: In a case of tumor of the cerebello-pontile angle in which there was irritation of the ninth root, the tongue was deviated to the side of the tumor. In this man there was spasm of the tongue and often when he would open his mouth one could see the tongue in spasm, always to the side of the lesion and never beyond the lips. Sometimes the tongue would be protruded to the side of the cheek but never to the opposite side. This was rather interesting as a physiologic experiment on a human being.

Dr. Harvey Cushing, Baltimore, Md.: I have a feeling that the tongue gets its sense of position from the position of the jaw, and deflection of the jaw may mean that the tongue is getting its sense of position directly from the jaw, and, even though the tongue is deflected, it is really in position when compared with the deflection of the jaw. After trigeminal neurectomy the tongue deflects. The tongue seeks its sense of position in the mid-line when it would appear to deflect.

Etiology of the Occupation Neuroses and Neuritides

Dr. W. E. Paul, Boston, Mass.: Experimental work shows that peripheral nerve injury or trauma can give rise to practically all the symptoms of an occupation neurosis. The majority of the symptoms cannot be explained by the central hypothesis. In ten cases the rule that all other acts than the occupational acts are done fully and freely did not hold. Two hundred cases analyzed from the records of the Massachusetts General Hospital demonstrate the frequency of pain located in many cases near or in joints. The impacts, squeezings, tensions and stresses of excessive physiologic functioning, acting on muscle tissue, or on sensory and motor nerve structures which run in the soft tissues and terminate in muscle, tendon, joints or fasciæ, bring about neurolytic or myolytic changes responsible for the occupation neuroses and so-called occupation neuritis and occupation pain.

Differential Diagnosis Between Maniac-Depressive Insanity and Dementia Præcox

Dr. Alfred Gordon, Philadelphia: A careful analysis of every phase of the mental affections in four cases observed for several days leads me to the following conclusions: In spite of the fact that everyone of the four patients presented, at one time, alternating phases of maniac and depressive outbreaks, and, at another time, symptoms of dementia præcox, there were certain features which constituted very important differential diagnostic elements, to wit, if in an individual affected with outbreaks of depression and exaltation, each characteristic of mania and melancholia, a change of his affective and intellectual faculties and particularly of the first is observed, the presumption is in favor of an eventual dementia præcox. If the patient begins his mental disorder with symptoms of dementia præcox and later develops the picture of maniac-depressive psychosis, but one following closely the other, the latter *may* carry with it some important features of the first, and these very same features present, then, a very significant diagnostic element.

The Early Symptoms of General Paralysis

Dr. Philip C. Knapp, Boston: I wish to report a study of 100 cases of general paralysis in ninety men and ten women, seen on the average of a year and eight months after the onset of morbid symptoms. Twelve were cases of taboparalysis. A comparison was made between the symptoms which were reported as the initial symptoms of the disease, and the symptoms presented at the time of examination. Sensory symptoms, headache, pain and paresthesia were the commonest initial symptoms, although of less relative frequency later in the disease. Apoplectiform and epileptiform attacks were relatively more frequent as initial symptoms than as symptoms of later onset. Motor symptoms were not very common at the beginning of the disease, but were almost universal later, occurring in eighty-seven cases. Nearly every patient presented alterations of the knee-jerk (ninety-six cases) and of speech or handwriting (ninety-three cases). Mental symptoms were noted among the initial symptoms in forty-nine cases. There was no case which did not present alterations either in the knee-jerks or in the pupils, or in the speech or handwriting. There were three cases in which no mental disturbance was detected and twelve more in which the mental disturbance was insignificant. This warrants the classification of paresis among the diseases of the nervous system in general rather than as a distinctly mental disease.

DISCUSSION

Dr. H. R. Stedman, Boston: General paralysis is primarily and essentially a disease in the cortex, whose highest functions are the mental processes. Therefore, it seems to me to go without saying that mental enfeeblement must be present. There must be some shade or degree of enfeeblement in the beginning of general paralysis. Then, again, the average person is far less likely to notice, remember and give due weight to the purely mental, the minor mental changes, like impairment of attention and slight changes in character and disposition and all that, while, on the other hand, the physical changes, like tremor and the pupillary changes, because they are more noticeable and tangible, would be far more likely to make an impression on him and be remembered.

Dr. Morton Prince, Boston: There is a very great fallacy in statistics of this kind. That the patient cannot give an accurate account in a case of insanity goes without saying. A number of cases come to my mind, where the relatives say that the person is a very intelligent individual; they are unwilling to admit that any mental symptoms have developed, partly because of their unwillingness to face the truth, and partly to find some way of explaining those symptoms.

Dr. G. L. Walton, Boston: I agree with Dr. Knapp that the mental symptoms are far less prominent than the physical signs at the onset. The practical bearing is that if a patient presents himself with a mental condition suggesting paresis, if there are no pupillary or other reflex disorders, no trouble in speech or writing, no tumor and no history of apoplectiform or epileptiform attacks or other of the physical signs of the disease, the chances are overwhelmingly against the diagnosis of paresis.

Dr. M. Allen Starr, New York: In a study of 200 cases from my clinic made by Dr. Hunt, one fact came out which has not been brought forward here, that is, among the early mental symptoms we found it was very much more common to have a period of mental depression than one of exaltation. A study of my cases confirmed the statement of Dr. Stedman that when the patients begin to fail, it is the highest centers that go first, and that in these cases it is not quite fair to make our estimation of the early symptoms from the statements of the patient when the disease has developed or from the statement of relatives, notoriously inaccurate witnesses, but we should bear in mind our own mistakes of undiagnosed cases which subsequent events have shown were cases of paresis.

Dr. C. L. Dana, New York: Dr. Knapp has ignored the fact that in those symptoms which he describes as early symptoms of paresis, the sensory, the motor and the mental are all three important symptoms of a luetic disorder of the central nervous system. My experience is this: that paresis usually, or often, attacks a person first through a condition which we call luetic neurasthenia or luetic depression and more rarely luetic *mania*. If the disease goes on, as it usually does, then paresis develops, but if proper treatments are applied the sensory symptoms and motor symptoms are sometimes arrested and no paresis ensues. Now the test by which we can determine whether a luetic condition is one of luetic ischemia or early paralysis is to be found ultimately in a careful study of the blood and cerebrospinal fluid, and already we have got pretty near to the formula by which we can tell.

Dr. Theodore Diller, Pittsburg, Pa.: I am sure there are many cases of paresis with physical signs which are perfectly well developed before the appearance of the mental symptoms.

Dr. Ernest Jones, Toronto: My experience is that the first symptoms to be noticed by the patient are physical, but the first symptoms of which he complains and which lead him to seek advice are of the mental kind, and that when the physician sees the case, the mental symptoms are the most constant and pronounced.

Dr. Henry A. Cotton, Trenton, N. J.: From the viewpoint of the hospital physician, I think we see, in some cases, the physicial signs appear first, and, in others, the mental signs appear first. Unless paresis is in a stage where there can be no mistake as to diagnosis, we should make lumbar puncture. The lumbar puncture taken in the early stages will show a lymphocytosis in cases in which one hardly suspects general paralysis from the physical or mental signs.

Methods of Curing Idiopathic Epilepsy

Dr. L. Pierce Clark, New York: Statistics and percentages of cures are of no value unless backed by actual data. So-called spontaneous cures are almost invariably brought about by the reliance of the patient on a hygienic system more or less adequately adhered to. Special drug therapy, especially the sedative, are thoroughly discouraged in treating idiopathic epilepsy. Seventy-five per cent. of all idiopathic epilepsies show some metabolic defect. No patient showing real mental deterioration has recovered. The rather frequently reported cures at 4 or 5 years of age are probably but reflex convulsions; many such might in time develop into genuine epilepsy if they are not checked. Spontaneous cures rarely occur between 5 or 6 and 20 years of age. The chances of spontaneous cures improve greatly with advancing years, between 20 and 40 especially. Relapses in cured cases are not uncommon, even after fifteen or twenty years of arrest. The cause for relapses is a breaking away from the hygienic regimen, or emotional and mental stress. Restoration to a second arrest is very difficult of accomplishment.

Dr. James J. Putnam, Boston: I have tried the hygienic treatment without bromids in several instances; I have been very well satisfied with the results and mean to continue this treatment. If we are going to rely on hygiene, we must carry it to the point of adopting something equivalent to the careful training of a person who is about to enter some sort of athletic contest.

IOWA STATE MEDICAL SOCIETY

Sixtieth Annual Meeting, held at Des Moines, May 17-19, 1911

The President, Dr. M. N. Voldeng, Cherokee, in the Chair

A list of the officers for the coming year was published in The Journal, June 10, p. 1729.

Typhoid Bacilli-Carriers

Dr. Henry Albert, Iowa City: I have tabulated eighteen instances of epidemics or endemics of typhoid traceable to typhoid bacilli-carriers. Chronic typhoid bacilli-carriers must be regarded as a menace to public health, it having been shown: (a) probably 5 per cent. of all typhoid patients become chronic typhoid bacilli-carriers; (b) 3 per cent. continue to excrete typhoid bacilli for more than one year after recovery; (c) 25 per cent. of all chronic typhoid bacilli-carriers have never had typhoid; (d) 1 in every 1,000 of the general population is a carrier; and (e) 10 per cent. of all cases of typhoid are traceable to carriers. Whenever there are household epidemics or a series of outbreaks of the disease in a locality or an institution, or among soldiers in the field, we should consider that a bacilli-carrier is the most probable source. If an individual has an attack of cholecystitis or biliary colic soon after an attack of typhoid, we should suspect that such has been caused by typhoid bacilli, and that such a person is a typhoid bacilli-carrier. Chronic typhoid bacilli-carriers transmit the germs to others practically only by the handling of articles of food consumed without being cooked or handled after being cooked. Persons who have recovered from an attack of typhoid should preferably not engage in dairying, kitchen work, etc., for at least one year after the attack. Persons who have ever had typhoid, or within a year have been exposed to infection with it, should thoroughly wash their hands with soap and water before handling any article of food which is to be consumed without being cooked or reheated to the boiling point. The administration of hexamethylenamin and typhoid vaccines, and occasionally the performance of a cholecystotomy, may be advantageously employed to remove the carrier condition.

DISCUSSION

Dr. W. L. Bierring, Des Moines: One is impressed with the longevity of typhoid bacilli in the human body. The gall-bladder seems to be an especially good habitat for their growth or life. On the other hand, one wonders to what extent convalescents really become dangerous as carriers, when we recall the many cases that pass out from under our hands, without opportunity to keep up disinfection, and still very few instances of subsequent infection occur in the neighborhood or environment of these patients. Undoubtedly a great many of the pathogenic organizations lose much of their vitality as soon as they get outside of the body; and yet, as representing the spirit of the State Board of Health, all typhoid patients who are convalescent should be kept under observation for a certain time, and those tracts or channels where these germs are harbored disinfected.

Dr. T. F. Duhigg, Des Moines: It seems obvious that typhoid bacilli under certain conditions do live for a considerable length of time outside of the body. They have been recovered from ordinary earth where it was dry enough to pulverize, and from that dust cultures made after a period of two weeks. In certain soil, being nurtured on pollution, they have stood up and answered to roll call over 300 days after being planted. It is unreasonable to trace every case of typhoid fever to a carrier, and it is unreasonable also to expect a bacillus to die promptly where conditions are favorable to its life. When a multitude of destroying organisms are present, obviously it will disappear very rapidly; but a polluted soil combined with a low water level will sustain typhoid bacilli for a considerable length of time.

Treatment of Carcinoma of the Breast

Dr. L. W. Littig, Davenport: To secure the best results an early diagnosis and correct conception of the manner in which cancer cells are disseminated, and a properly planned and efficiently performed operation, are absolutely essential.

There is diagnostic significance in even the slightest dimpling of the skin in the slightest pull, of asymmetry of the breast, of the shortening of the quadrant of the breast in which the tumor is located, and of the multiple dimpling of the skin, known as "peau d' orange." A discharge from the nipple is suggestive but not conclusive. A thin, bloody discharge is strong evidence of cancer, while a mucoid discharge points to benign growth. A discharge of bloody fluid suggests an intracystic papilloma. About 50 per cent. of cysts are malignant, and every cyst must be inspected carefully and the condition of its wall noted. The faintest difference in color and texture, a slight thickening at one point, a slight nodule, point to cancer. A smooth cyst containing blood without a papilloma, and a cyst containing granular, grumous contents, is cancer; likewise a cyst containing a fungoid mass. If the strawberry or raspberry shape of a papilloma be preserved, and the contents be hemorrhagic, it is benign. A smooth wall cyst without a papilloma means a cancer. The exploratory puncture should never be used, as it is dangerous and may disseminate cancer cells. A free incision and immediate microscopic diagnosis, and immediate radical operation, is the best procedure in doubtful cases. The dissemination of cancer cells by way of the lymphatics lying on the deep fascia must be considered to get the best results. The relative infrequency of recurrence in the axilla, and the relatively great frequency of recurrence in the scar, indicate that the Halsted operation does not pursue cancer cells in the fascia with the same efficiency that it does in the axilla.

The Handley operation, which assumes that cancer is disseminated by a process of permeation, and that permeation occurs in all directions, against the lymph current as freely as with it, must be the basis of a properly planned operation. The Tansini operation has a place. The best results are obtained by removing a 4 or 5 inch circle of skin and a 10 or 12 inch circle of fascia, the tumor always being taken as the center of the circle. This area includes the upper portion of the sheath of the rectus of both sides, the perforating branches of the internal mammary artery on the opposite side, that portion of the serratus magnus muscle under the breast, the fascia over the anterior edge of the latissimus dorsi, the pectoral fascia, and the pectoral muscles, except the clavicular portion of the greater pectoral. The axilla is to be cleaned with the Halsted thoroughness. Regardless of the plan of attack, all suspected tissues must be handled with gentleness until removed, that cancer juice may not infect the wound, or cancer cells be forced to distant parts by way of the lymphatics. Procrastination in the treatment of tumors is to be condemned, the cancer cells creeping onward in an ever-widening circle while the patient waits for cooler weather, and while the doctor waits for all the typical symptoms.

DISCUSSION

Dr. D. S. Fairchild, Clinton: Dr. Littig has pointed out the very great importance of the removal of the adjacent fascia by making a wide dissection. A well-planned scheme should be adopted of including all the tissues that the anatomists have shown might contain these cancer cells. I have removed quite a number of tumors of the breast, that were shown afterward not to be cancer, with the idea that they were. It is generally impossible for us to determine whether it is cancer by any sort of laboratory examination such as we have at hand at the time of operation, and make a limited dissection on the ground of adenoma or cystic growth. I think the last five cystic tumors of the breast that I removed were not malignant, and yet I have never regretted that I made the radical operation, because it was impossible for me at that time to determine with absolute certainty that they were not malignant, and I assumed that they were because I had no proof to the contrary.

Dr. Ira A. Crow, Marengo: Dr. Littig seems to think that it does not matter whether you begin at the outer edge and dissect in, or begin at the gland and dissect out. It seems to me the Jackson incision, which is made from the axilla in toward the mammary gland, exposing the large axillary vessels with their accompanying lymphatics first, is the easier and more proper method, for two reasons. First, you encounter the blood-vessels at their origin, where you can clamp or ligate them, and thus make a more nearly bloodless dissection as compared to beginning at the mammary gland and working toward the axilla, meeting the numerous muscles. Secondly, by beginning at the outer edge we cut off the source of invasion of the lymphatics and lessen the danger, I believe, of squeezing the carcinomatous cells out into the adjacent tissues.

Dr. D. C. Brockman, Ottumwa: I do not agree entirely with Dr. Fairchild in the removal of every breast because there is a tumor in it. If a young girl comes to me with a tumor that has existed for a year or two, I assume that it is probably an adenoma, and I enucleate by a sweeping incision under the breast, turn the breast over and remove the tumor; and if it is not malignant I do not touch the breast. Another thing. Let us stop operating on young women with cancer of the breast. It does no good; it does harm every time. I will never again attempt to remove a cancer of the breast of a woman under 35, whatever her build is, and never under 40 if she is fat. The older the patient, the better the results, because the old, wizened-up woman has wizened-up lymphatics that will not carry the cancer cells; while the fat young woman will die just as quickly as if she had not been operated on.

Dr. George W. Crile, Cleveland: I have recently had occasion to review practically all of the cases of cancer of the breast that I have had under my care—a little over 200. I divide all cases at the time I see them first into three classes: first, those in which the cancer is still limited to breast tissue, which we would call a favorable group; second, those cases in which the skin and some additional tissue are involved, which we call the unfavorable group; third, those that are hopelessly involved. Of this series, 80 per cent. of Group 1 remain cured for three years and over, while in Group 2 this percentage drops to 25 per cent. This is a tremendously strong argument that we must not allow our patients to go until they get into the second class, and we will have 80 per cent. cured.

The Symptomatology and Treatment of Early Tubal Pregnancy

Dr. Max Emmert, Atlantic: Tubal pregnancy is an abnormality of many variations, and frequently it is very difficult to differentiate it from normal uterine pregnancy. It often occurs in women who have borne children and have become pregnant after a long period of sterility. The early symptoms vary somewhat from those of normal uterine pregnancy, but a positive diagnosis before rupture cannot be made from the symptoms alone. Cessation of menstruation occurs in only 43 per cent. of the cases, and consequently is of little importance unless present. Morning sickness occurs about as frequently as in uterine pregnancy, or in one-half to two-thirds of the cases. As this symptom does not appear until the end of the first month, it is of little use for an early diagnosis. The nervous phenomena of pregnancy, such as despondency and tinnitus auris, are said to be exaggerated in tubal pregnancy. Intermittent colicky pains in one or both ovarian regions is one of the most characteristic symptoms. These pains vary in severity, but in all cases are intense enough to attract the patient's attention. They may or may not radiate to the back or thighs. Abnormal mens- trual flow at a time when not expected is another suggestive symptom, and is of great value in establishing a diagnosis. Vomiting when present is the most deceptive symptom, as it often points to a lesion along the digestive tract, and especially in the appendix, if the pregnancy be on the right side. Each case must be treated according to its individual merits. If the hemorrhage is profuse and shows no signs of abating after one or two hours of expectant treatment, operation is demanded. If the hemorrhage ceases, the patient may be treated expectantly, but always bearing in mind the danger of secondary hemorrhage, which is more fatal than the primary.

Too much stress cannot be placed on the necessity for absolute rest in cases of rupture. The patient should not move her body or be moved during the first twenty-four hours. She should not be permitted to move herself for at least three days. Immediately following the rupture morphin should be used freely to secure complete relaxation, ease the pain and quiet the nervous system. After the hemorrhage has ceased, salt solution is indicated, either by venous infusion, hypodermolysis or proctoclysis. The bowels should not be moved for three days, and then by a mild enema. Any woman who during the child-bearing age shows any abnormal signs or symptoms during pregnancy should be examined carefully with the intention of eliminating the possibility of tubal pregnancy. If this is done, the mortality from tubal pregnancy will be greatly reduced and the proficiency of the practitioner greatly increased.

DISCUSSION

Dr. A. L. Wright, Carroll: It may be said that the diagnosis of tubal pregnancy rests largely on the following clinical manifestations: An early history of pregnancy; pain in one side, severe at times; irregularity of the menstrual flow, and, prior to rupture, a tumor in one side of the uterus. After rupture, in addition to the pain, the patient presents a history of some profound disturbance. If seen at the time of shock, due to the loss of a large quantity of blood, she is not only suffering from the most intense pain, but there is unmistakable evidence that she is bleeding somewhere.

Dr. J. F. Herrick, Ottumwa: It has seemed to me that at times too great an effort is made to clean out blood-clots in cases of this kind. Unless the clots are infected, it is quite as well to close the bleeding point, and if the fetus is in the field, remove it and leave the clot to be taken care of by Nature. My experience is somewhat limited, but I know of three cases in which large clots were left in, and there was no evidence of any disturbance afterward. But, of course, very careful asepsis should be maintained in every phase of the operation, so that those clots may not become infected.

Dr. George E. Crawford, Cedar Rapids: A personal experience with fifteen cases has convinced me that the clots are very likely to become infected on account of their contiguity to the bowels. What could possibly be the idea of opening the abdomen and tying the bleeding surface and leaving the clots? I think the sooner we get those clots out the better for the patient.

Dr. C. E. Boyd, Newton: My colleague and I have had an experience with twenty of these patients, and about one-fourth of them have been operated on per vaginam. It is our rule wherever hemorrhage has occurred, and wherever the clot has become infected and there is pus present, to do the vaginal operation. Sometimes you will have to operate to correct the disease in the tubes, but usually you will just have to do a cul-de-sac operation. As to leaving the clots of blood in, take them out every time. You take them out in other abdominal operations, and why not in this? They are more likely to be infected than ordinary clots in the abdominal cavity.

Dysmenorrhea and the Popular Errors Concerning It

Dr. C. F. Wahrer, Fort Madison: Few subjects in medicine are more frequent than cases of dysmenorrhea, and few are more unsatisfactorily treated, as far as permanent relief is concerned. There is too much routine, all tending to dilation and curetting, and even ultra-radical surgical measures, such as would not be dreamed of were the patient a man with analogical ailments. Dilation cures less than 20 per cent. of all cases, as contracted cervixes are the exception and not the rule. And if done, it must be maintained for some time—several months, at least—by some cannula, or it will prove unsatisfactory in most instances. Nervous causes, faulty education, etc., are more to blame than real pathologic conditions, which in most cases are wanting. The wise family physician can do more here than all the surgeons and gynecologists in the world—though there would seem to be nothing to hinder a surgeon or gynecologist from being wise, unless blinded by greed or operative furor.

DISCUSSION

DR. M. E. WITTE, Clarinda: The typical patient who comes to you is a pale, anemic neurotic individual. Surely she is not the subject for a surgical operation. If she came to you complaining of any other trouble than pain at the menstrual period, you would probably think of building her up instead of looking for a surgical instrument to cut away something or to dilate some cavity. It seems to me that the treatment must be prophylactic, aside from individual cases. If we teach our women how they should dress, how they should live, the exercise that they should have, dysmenorrhea as a disease will disappear, or at least become less common than it is at the present time. The uncivilized woman is comparatively free from this trouble; it is the individual who wears fashionable clothing and does the things that a woman of fashion must do who suffers, not only from dysmenorrhea, but from the other diseases that are prone to produce this condition.

DR. C. W. BAKER, Stanwood: Dr. Wahrer made the statement that about 30 per cent. of the patients normally have pain. I would not want to believe him as saying that it is normal for any one to have pain, either in menstruation or in childbirth. I feel that if nearly one-third of all the patients with menstrual trouble have pain, it is because of a nervous taint that has been ingrown. The young girl has been forced and strained in such a way that her nervous system is broken, in a sense; she is a partial nervous wreck. Many of these patients cannot be relieved with anything but narcotics. Dr. Witte's suggestion that they be built up with tonics or in any way we can rebuild them is the treatment that will relieve most satisfactorily.

DR. J. F. HERRICK, Ottumwa: I have come to the conclusion that the pain of dysmenorrhea usually is not due to obstruction, but to a spasm of the uterine tissues, especially of the cervical region, and is of the same nature as the pains of labor. We have colic or spasm of the intestinal canal when there is no obstruction, due to the contraction of a hollow viscus. And so I believe that in dysmenorrhea the pain is due to faulty habits of life. These habits must be corrected otherwise no treatment, curettage or stem pessary will cure I do not believe all menstrual pain is abnormal; I believe a slight discomfort is perfectly normal, as I believe pain in labor is always normal, not only in the human family, but in all animal creation.

DR. CHAS. F. WAHRER: My plea is for the profession to get out of the ruts—to give the go-by to nostrums that are usually compounded with opium. My further plea is not to subject every woman to the knife and to the dilator, because it simply robs her of money, if she has any, and gives her a vast minority of relief and a great majority of disappointment.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Philippine Journal of Science, Manila

February

1 *Nutrition and Growth. H. Aron, Manila, P. I.
2 *Indications of Acid Intoxication in Asiatic Cholera. A. W. Sellards and A. O. Shaklee, Manila, P. I.
3 *Study of Intestinal Parasites in Tobacco Haciendas of the Cagayan Valley, Philippine Islands. D. G. Willets, Manila, P. I.
4 *Anthrax in the Philippine Islands. W. H. Boynton, Manila, P. I.

1. **Nutrition and Growth.**—The relationship between nutrition and growth was made the subject of a very exhaustive experimental study by Aron. He made four sets of experiments on fourteen dogs, and noted (1) the influence of a restricted diet on growing dogs; (2) effect on the weight and appearance of the animals; (3) relative amount of change in certain parts of the body as compared with other parts; (4) changes in the chemical constitution of the body; (5) energy requirement and food consumption. Then he studied (1) the biologic considerations concerning the suppression of growth by restricting the food; (2) energy required during growth, and (3) the increase in weight as an index to growth, with special reference to children. The most important results of his experiments may be summarized as follows: A growing animal which receives only sufficient food to keep its body weight constant, or to allow a slight increase, is in a condition of severe starvation. If by a restriction of food the increase in weight is inhibited, the skeleton grows at the expense of other parts of the body, especially of the flesh. Most of the organs retain their weight and size, while the brain grows to reach its normal weight. The composition of the body, when at a constant weight, undergoes remarkable changes: Fat is consumed more or less entirely, the quantity of protein, especially of the muscles, but not of the organs, is diminished and a great proportion of the body tissues is replaced by water; thus, this water and the increase of the skeleton together, replace the body materials lost. The caloric value of 1 gm. body weight of an animal which has undergone such a process to its extreme limit may amount to only one-third of the normal value. It is possible by supplying suitable amounts of food to maintain a dog in an emaciated condition, apparently in good health, and at the weight of a puppy, for nearly one year, while its weight at the end of the year should be three times as great. If such an animal is thereupon fed amply, it fattens and rounds out, but does not reach the size of a control animal which from the beginning has been normally fed. It is unable to make good the growth suspended by the long restriction of food. The growth principally depends on the tendency to grow possessed by the skeleton. The skeleton loses its capability of growing in more advanced age regardless of the size which the animal has reached.

2. **Acid Intoxication.**—Certain features in Asiatic cholera afforded an interesting opportunity to Sellards and Shaklee for the study of acid intoxication. They found that the stage of reaction and uremia in cholera and the acid intoxication of diabetes have the following features in common. There is a well-marked tolerance for alkalies, as much as 90 gm. in cholera and even 200 gm. of sodium bicarbonate in diabetes may fail to render the urine alkaline. In certain stages of both diseases, sodium bicarbonate possesses pronounced diuretic properties. The relative and absolute amounts of ammonia in the urine are considerably increased in both diseases. The administration of alkalies, even in large amounts, sometimes fails to reduce the excretion of ammonia. In cholera the urine frequently shows a pronounced diminution in the amount and percentage of urea; some evidence was obtained which suggests that the nitrogen may fail to be excreted as urea or ammonia, even when the organs which form urea are capable of performing their function and the kidney is able to excrete urea. Preliminary tests made by the authors indicated that there may be a definite reduction in the carbon dioxid content of the blood in the uremia of cholera as well as in diabetic coma. In both diseases, a diminished alkalinity of the blood has been reported. The injection of alkalies in the late stages of either disease usually modifies the course without affecting the ultimate termination. The early administration of alkalies in cholera has been effective in preventing death from uremia without any apparent increase in the number of deaths from other causes. The exact significance of these analogies can be determined only by a thorough investigation. Acetone and aceto-acetic acid have been noted in the urine of cholera patients but no excess of acid has been found which corresponds to the quantities of β-oxybutyric occurring in diabetes. Two forms of acid intoxication are distinguished by Naunyn, namely, a relative and absolute type. Loss of alkali from the body apparently may result from a pronounced diarrhea, this loss giving rise to a relative acidosis. It also is conceivable that there may be an excessive quantity of acid present, resulting in the production of an absolute acid intoxication in cholera.

3. **Study of Intestinal Parasites.**—An examination of 4,278 persons by Willets in the Philippines disclosed the fact that 85.46 per cent. of them harbored intestinal parasites of some kind. The ascaris was present in 62.04 per cent., the hookworm in 54.37 per cent. and the trichuris in 7.09 per cent.

Oxyuris, tenia, hymenolepis, strongyloides and trematodes were also present in from .02 to 1.50 per cent. In Willetts' opinion, three factors are acting to produce a high percentage of hookworm infection at the haciendas, namely, the nature of the soil, the tobacco plants, and the occupation of the people. The soil is composed of clay with which sand is generously admixed, the tobacco plants furnish shade-conditions which are favorable for the propagation of the hookworm, and the cultivation of the tobacco keeps the people in the field daily during the greater part of the year. The belief that the infections are obtained in the fields is supported by the facts that the hookworm percentage increases rapidly when the age is reached at which work in the fields is begun, that males, who are in the fields more than females, give a higher percentage of infection than the females, and that a greater percentage of persons are infected in the lowlands than in the uplands.

4. **Anthrax in Philippines.**—From the results derived from cultures, staining reaction and animal inoculations, Boynton was led to the conclusion that anthrax exists in the vicinity of Taytay. Since the animals, which were proved to have died of anthrax, were pastured in Libis, Mahabang Sapa, Mapandan, Lambac and San Isidro, the infection is shown to be widely disseminated around the town of Taytay. As it is almost impossible to procure definite information as to the number of animals and the manner in which they died in these places, Boynton says, one cannot state whether the infection is recent or of long standing in this vicinity. The general opinion of the veterinarians is that it is of long standing, but has not been recognized as anthrax prior to this time.

Illinois Medical Journal, Springfield

June

5 Gifts of Science to the World. W. E. Quine, Chicago.
6 Perineal Plastic Operations. J. Price, Philadelphia.
7 Aids in Abdominal Diagnosis. W. M. Harsha, Chicago.
8 Metastatic Ophthalmia. W. H. Wilder, Chicago.
9 Cases of Heart Disease Treated by Surgery. B. Holmes, Chicago.
10 Value of Psychic Influences. W. B. Eicher, Peoria.
11 Congenital Torticollis. C. M. Jacobs, Chicago.
12 Complete Suturing of Bladder After Suprapubic Section. G. Kolischer and H. Kraus, Chicago.
13 Blood Findings in Last Stages of Chronic Pulmonary Tuberculosis. J. C. Warbrick, Chicago.
14 Medical Profession of Douglas County. J. L. Reat, Tuscola.
15 Analysis of the Weber Test in One Hundred Cases. R. Sonnenschein, Chicago.

Yale Medical Journal, New Haven, Conn.

May

16 Eyestrain. G. H. Wright, New Milford, Conn.
17 Vital Statistics. J. H. Townsend, New Haven, Conn.
18 *Unusual Case of Gas Bacillus Infection. P. W. Bill, Bridgeport, Conn.

18. **Gas Bacillus Infection.**—The unusual features of Bill's case were (1) that the original wound was a punctured, sharp-cut, non-pulpifying one. (2) In the cases already reported the longest period of time elapsing from the moment of injury to the onset of symptoms is four days—here it was twelve days. This is accounted for by considering the infection due to the development of spores that were not removed at the original operation. It was suggested that the patient was infected at the second operation, which immediately followed the amputation of a leg crushed by a railroad train. The objection to this is that the gas bacillus patient had the chill and rise of temperature and signs of infection twelve hours before the second man was injured. This man, too, kept a perfectly clean wound. (3) The thigh from the knee up at no time showed any distention nor emphysema, while the leg below the knee showed these signs to a marked degree. This has not been accounted for. Notwithstanding the fact that the *B. aërogenes capsulatus* developed in the stump after amputation, the patient recovered. It seems that the good to be gotten from this case may be summed up as follows: That in all wounds into which soil has been carried the treatment must be open widely, irrigate thoroughly and then irrigate again, and drain. Also, bodies of persons dying from infection by the *B. aërogenes capsulatus* are not to be buried as soon as the diagnosis is made; prompt radical treatment is well worth trying.

Lancet-Clinic, Cincinnati

July 8

19 Cardiospasm. D. W. Palmer, Cincinnati.
20 Syphilis. C. Aryn, Milwaukee, Wis.
21 Surgery in the Female. D. D. Deneen, Cincinnati.

Wisconsin Medical Journal

June

22 Annual Address of President of State Medical Society of Wisconsin. B. M. Caples, Waukesha.
23 Operative Treatment of Long-Bone Fractures. P. F. Rogers, Milwaukee.
24 Retroversion of Uterus, Etiology and Symptoms. F. J. Gaenslen, Milwaukee.

Bulletin of Manila Medical Society, Philippine Islands

May

25 Treatment of Burns. H. E. Schiffbauer, Philippines.
26 Incidence of Gastro-Intestinal Disturbances in Infants and Children R. Leynes, Manila.
27 *Duration of Passive Immunity, Especially that Against Tetanus. E. H. Ruediger, Manila.
28 Technic of Surgical Clinic of Philippine General Hospital, Manila. J. R. McDill and H. E. Schiffbauer, Manila.

27. **Duration of Passive Immunity.**—Ruediger found experimentally that passive immunity seems to be of short duration, perhaps of shorter duration than has been commonly believed. Five weeks after injection of 1.000 units of tetanus antitoxin a guinea-pig seems to be as susceptible to tetanus toxin as is a normal guinea-pig.

Journal of Medical Research, Boston

June

29 Inheritance of Tuberculo-Protein Hypersensitiveness in Guinea-Pigs. A. K. Krause.
30 Protective Influence of Leukocytic Substances on Experimental Plague Infection in Rats. H. Zinsser, G. W. McCoy and C. W. Chapin, San Francisco.
31 Ovarian Infection with Bacterium Pullorum in Domestic Fowl. G. E. Gage.
32 Hirudin and Hirudin Immunity. D. M. Cowie, Ann Arbor, Mich.
33 *Passage of Bacteria Through Intestinal Wall. M. P. Ravenel and B. W. Hammer, Madison, Wis.
34 *Elimination of Tubercle Bacilli from Infected Cattle. V. A. Moore, Ithaca, N. Y.
35 Vacuum Desiccation of Bacteria. B. W. Hammer, Madison, Wis.
36 *Opsonins in Pleurisy. L. Breskman and L. J. Tint, Philadelphia.
37 Pseudo-Nuclei of Erythrocytes. M. F. Boyd, Iowa City.
38 Ciaccio's Method for Demonstration of Lipoids. E. T. Bell, Madison, Wis.

33. **Passage of Bacteria Through Intestinal Wall.**—An emulsion of *B. prodigiosus* was injected into the rectum for the purpose of studying the passage of the organism into the blood as well as to give further evidence on antiperistalsis. Th shortest time which elapsed between the injection and th making of the cultures was one hour and twenty minutes and the longest time five hours and twenty minutes. Cultures were made from the stomach, large intestine, smal intestine, cecum, blood and rectum. In no case was the *B prodigiosus* recovered from the stomach, large intestine, smal intestine, cecum or blood. In two cases it was not recovere from the rectum. Both of these cases had gone five hours an twenty minutes. The number of animals experimented o was only twelve, but the uniformity of results was striking The conclusions which Ravenel and Hammer feel justified in drawing from this work are that: (1) Antiperistalsis will not, as a rule, carry bacteria above the ileocecal valve. (2) The passage of bacteria into the blood from the rectum does not occur rapidly nor surely.

34. **Elimination of Tubercle Bacilli.**—In order to secure information concerning the safety of the milk from occult cases of tuberculosis in cattle and to ascertain the extent of the immediate danger of such animals to others, a study of the elimination of tubercle bacilli was undertaken by Moore. Thirteen animals were used in these repeated tests. Moore examined microscopically 491 samples of milk and 580 samples of feces. Acid-fast bacteria were found in milk fifty-three times and in feces 209 times. His findings have convinced him that cows with tuberculous udders eliminate tubercle bacilli with the milk. In such cases these organisms are usually present in large numbers. Cows with glandular or pulmonary tuberculosis, in which the lesions are discharging into the bronchi, eliminate tubercle bacilli with the feces and with the droolings. In cases of intestinal tuberculous ulcers the organisms are excreted with the feces. Milk is usually infected with tubercle bacilli when it is taken from cows with tuber-

culous udders. It may, through contamination with feces or uterine discharges, be infected when drawn from cows with open lesions in the respiratory and digestive tracts or organs of reproduction. Tubercle bacilli are not, as a rule, present in the milk of cows that react to tuberculin and which on a careful physical examination exhibit no evidence of disease. Moore believes that the number of tubercle bacilli in market milk would be greatly reduced, and possibly entirely eliminated, by having frequent and thorough physical examinations of the dairy cows and the removal of all individuals showing evidence of disease.

36. **Opsonins in Pleurisy.**—The authors believe that a low opsonic index to streptococci and pneumococci in primary pleurisy may prove an aid to the diagnosis of a susceptibility to tuberculosis. Their studies showed that a subnormal tuberculo-opsonic index in the cases of primary pleurisy examined was associated with a low pneumococcic and streptococcic index. In cases of tuberculous pyothorax, a low streptococcic and pneumococcic index were associated with a high tubercle index.

Annals of Ophthalmology, St. Louis

July

39 Intra-Ocular Sarcoma and Sympathetic Inflammation. J. Meller, Vienna.
40 Case of Small Round-Cell Sarcoma of Sheath of Optic Nerve. W. C. Posey, Philadelphia.
41 Some Experiences with Ophthalmodiaphanoscope, with Exhibition of Lamp. H. F. Hansell, Philadelphia.
42 Strabismus Hook: Useful Instrument in Extirpation of Lacrimal Sac. E. A. Shumway, Philadelphia.
43 Case of Optic Atrophy with Horizontal Heteronymous Hemianopia. J. W. Sherer, Kansas City.
44 Chancre of Eyelid, with Demonstration of Spirochæta Pallida. W. T. Shoemaker, Philadelphia.

American Journal of Obstetrics, New York

July

45 *Vaginal Cesarean Section in Treatment of Eclampsia. R. Peterson, Ann Arbor, Mich.
46 *Treatment of Placenta Prævia at the Sloane Hospital for Women. E. B. Cragin, New York.
47 *Placenta Prævia. E. P. Davis, Philadelphia.
48 *Brief Analysis of Forty Consecutive Cases of Placenta Prævia. J. C. Edgar, New York.
49 *Best and Worst Methods of Treating Placenta Prævia. H. D. Fry, Washington, D. C.
50 Treatment of Placenta Prævia. F. S. Newell, Boston.
51 *Investigation of Use of Iodin in Skin Sterilization for Surgical Purposes. J. W. Bovée, Washington, D. C.
52 *The Funnel Pelvis. J. W. Williams, Baltimore.

45. Abstracted in The Journal, July 8, 1911, p. 161.

46, 47, 48 and 49. Abstracted in The Journal, June 10, 1911, pp. 1745 and 1746.

51. **Iodin in Skin Sterilization.**—So far as could be ascertained by Bovée by culturing epidermic scrapings, weak dilutions of iodin, even to 5 per cent. of the official tincture, thoroughly sterilize the surface of the skin after a period of time from two minutes to fifteen minutes from its application. These cultures incubated three days have not shown any colonies. Beyond that period of time investigations with this dilution of iodin in skin sterilization have not been made. While the inhibitive action of absolute alcohol is quite potent, this property is greatly enhanced by the addition of iodin to an equivalent of 5 per cent. of the U. S. P. tincture. Pubic hair placed in iodin dilutions of 5, 10, 20, 30 and 40 per cent. strength (of the official tincture), respectively, for two, three, five, eight, ten, twelve and fifteen minutes, respectively, all showed growths after three days' incubation, while using 50 per cent. dilutions under the same conditions practically always prevented growths. Control scrapings of skin taken from the abdomen above the umbilicus over periods of time varying from two minutes to two hours when 40 per cent. dilutions were used always showed negative results as to colonies. Cultures from hair and skin that had been subjected to 50 per cent. dilution of tincture of iodin never produced growths. Tincture of iodin diluted with an equal amount of absolute alcohol is considered reliable by Bovée as a local application in preparation of the skin or mucosa in any part of the body. Dilutions of less strength are unreliable if hairs or large hair follicles are in the field of operation He says that the 50 per cent. dilution of tincture of iodin, if not carelessly applied, is not likely to injure the skin.

52. Abstracted in The Journal, June 24, 1911, p. 1911.

Kentucky Medical Journal, Bowling Green

July 1

53 Preventable Blindness. W. Cheatham, Louisville.
54 Tuberculosis. J. F. Young, Monticello.
55 Early Recognition and Treatment of Tuberculosis. W. F. Boggess, Louisville.
56 General Sanitation and Hygiene. D. G. Simmons, Adairville.
57 The Ear, Nose and Throat in Relation to General Medicine. W. J. Thomasson, Newport.
58 Acute and Chronic Nephritis. J. H. Chrisman, Owenton.
59 Eugenics. G. J. Hermann, Newport.
60 Acute Articular Rheumatism. D. E. Lusby, Owenton.
61 Fees. C. W. Holland, Scottsville.
62 Castration for Neurasthenia. W. H. Edwards, Danville.
63 Fractures. R. H. Moss, Henderson.
64 Cerebral Decompression. G. A. Hendon, Louisville.

American Journal of Diseases of Children, Chicago

July

65 *Treatment of Sepsis in Scarlet Fever with Antistreptococcus Serum. M. Nicoll, New York.
66 Accessory Sinus Suppuration in Scarlet Fever. T. Hubbard, Toledo, Ohio.
67 *Studies in Metabolism of Atrophic Infants. C. A. Fife and B. S. Veeder, Philadelphia.
68 *Preparatory Study of Bacillus Acidophilus in Regard to Its Possible Therapeutic Use. T. M. Rotch and A. I. Kendall, Boston.
69 Anaphylaxis in Its Relation to Pediatrics. G. R. Pisek and M. C. Pease, New York.
70 *Fundamental Requirements of an Infant's Nutrition. J. Howland, St Louis.

65. **Antistreptococcus Serum in Sepsis in Scarlatina.**—Nicoll's experience was obtained at the Scarlet Fever Hospital of the Department of Health of New York City during February, March and April, 1910, in the course of a very extensive epidemic of the disease. The serum used consisted of eleven strains of streptococci from scarlet fever patient's blood, throat, glands, etc., and one of streptococcus from a case of endocarditis. Owing to a somewhat limited supply at the time, it was thought advisable to give but 50 c.c. as an initial dose.

In so far as was possible in a badly overcrowded hospital, with overworked staff and nurses, every patient who showed markedly grave symptoms, regardless of the day of disease, was injected. By no means all the fatal cases during these months were the patients injected, as measles, diphtheria and other complications accounted for their unfavorable progress and often death. Again, patients who, in spite of the severity of onset, seemed to be in no immediate danger, not infrequently took so sudden a turn for the worse that there was no opportunity to make use of the serum.

There were injected in all, thirty patients, of whom seventeen died. Of these seventeen cases, four patients were brought in the hospital in a moribund condition, immediately injected, and died within a few hours. Of those who were ward patients twenty-four hours or longer, one died within two hours after receiving injection, two others within twelve hours, a length of time too short to hope for any relief from a subcutaneous injection. Another patient, after seeming to respond favorably, contracted measles and ileocolitis; another measles, followed by gangrenous varicella. The condition of three others was shown to be due to a complicating diphtheria which failed to yield to large doses of antitoxin following the serum. One patient was injected late in the disease, with the hope of affecting a double mastoiditis, 100 c.c. being given intravenously. The result was inconclusive, as an operation was thought desirable. Following this, the patient received 100 c.c. subcutaneously, grew gradually weaker, with no marked lowering of the temperature, which had been exceedingly high, and died two weeks later in extreme emaciation.

Nicoll has had an opportunity to observe the effect of large doses of this serum given intravenously, and with the exception of one case he has not seen any alarming results which could be attributed to this method of administration. However, he is not prepared at this time to recommend its general use in this way, except in those cases in which a delay of twelve hours would probably determine a fatal outcome. Here, intravenous injections are by all means to be preferred. Until there is some method of standardization and concentration of the serum. Nicoll believes, it would be highly desirable to use a dosage believed to be essential to the best results by those who have had most experience with it, namely, for older children and adults, 200 c.c. *injected*, by preference, one-half into each side of the lower abdomen; *for infants* and young children, 100 to 150 c.c. in all. He *concludes that in all severe* cases of scarlet fever, the serum, if attainable, *should be made* use of in full doses and without delay.

67. **Metabolism of Atrophic Infants.**—In a study of two cases of infantile atrophy, the results of which are similar, the following conditions were noted: The fat absorption was less than in normal infants, although the infants were able to absorb large quantities of fat. The percentage absorption was better with a large amount of fat in the food than with low amounts. The amount of carbohydrate in the food did not influence the fat absorption. The amount of fat in the form of soaps in the feces was neither proportional to the amount of calcium in the feces nor to the amount of the carbohydrate in the food. Both the actual and *percentage* amounts of soaps were greater when the fat intake was low. The nitrogen retention was greater than in normal *infants of the same age and weight*. *Increasing* the amount of the carbohydrate produced an increased nitrogen retention, but the nitrogen retention was *not influenced by the amount of fat in* the food.

68. **Bacillus Acidophilus.**—The observations made by Rotch and Kendall are designed to show the *feasibility of encouraging* the growth of *B. acidophilus* by suitably *modifying* the food of the patient; if, however, acidophili are *not present* in the alimentary tracts of patients, it is *apparent that* they cannot be encouraged to *grow* even by the most *careful dietary regulation*. In such cases the authors deem it advisable, from the theoretical point of view, *to introduce cultures* of acidophili, provided they have been obtained from sources known *to be normal and absolutely free* from objectionable conditions. Cultures were readily obtained from two different patients by feeding maltose or lactose in moderate amounts. The details of the feeding experiments are given. It is not a matter of indifference, the authors say, which fermentative bacteria are encouraged to develop in the intestines; furthermore, certain organisms appear to elect the small intestine, others the large intestine. As a well-known example of the former, *B. bulgaricus* may be mentioned, while *B. acidophilus* is found most plentifully in the large intestine. *Applying these principles* clinically, it would appear that putrefactive conditions in the small intestine might be controlled more readily by an organism that generated lactic acid in that portion of the alimentary canal, and *B. bulgaricus* would be selected for this purpose, while *B. acidophilus* theoretically, at least, would be more promising for putrefactions of the large intestine.

70. **Infant's Nutrition.**—Howland emphasizes that the salts of potash, sodium, magnesium and calcium are all vitally necessary for the life processes. They are all present in the proper proportion in woman's milk, and are sufficiently represented in any *dilution* of cow's milk that would be used for any *considerable length* of time. In the majority of instances, they are in excess in the dilutions given to children, but this excess is not a factor of importance with the healthy child, which is the one that is under consideration. The salts of iron are, however, deficient both in human and, especially, in cow's milk. The large supply of iron present in the liver and other organs of the newly-born, may gradually be drawn on, and evidently is intended to be drawn on, during the first year, but this deficiency of iron is one *important* reason why an exclusively milk diet should not be persisted in too long. The fats and the *sugars* are the great providers of energy, and together they *furnish* approximately 90 per cent. of the body's requirements. To a large extent they may be used interchangeably, and an excess of one may for a time compensate for the deficiency of the other, though not indefinitely. Whatever disturbances these produce, are chiefly recognized by gastro-intestinal symptoms such as vomiting, *diarrhea*, or soapy stools, and so forth. A deleterious effect of either of these on metabolism, so far as the exchange of energy is concerned, has not been demonstrated. With the protein it is different. This must be furnished in a digestible and assimilable form to repair the loss by wear and tear and to provide for growth, but beyond a certain point there is a marked disadvantage in *giving protein*. Howland thinks it probable that slightly less protein is *required* for maintenance and growth in breast-feeding than *in cow's milk feeding*, owing to the better *utilization that can be* made of the homologous protein, but the excess *required with* cow's milk feeding is undoubtedly slight. When feeding *a normal child*, protein should furnish not less than 8 *per cent.* and not much more than 10 per cent. of the total energy *in the food*. When it furnishes 15 per cent., the *specific* dynamic action becomes *noticeable*, and when it *furnishes* 20 per cent., the effect is *very marked*. Howland *emphasizes that* in addition to the quantity of the *food provided, a proper* disposition of the energy among the various *constituents is always* seriously to be kept in mind.

Journal of Oklahoma State Medical Association, Muskogee

July

71 Diagnosis of Surgical Lesions of Kidney. J. H. White, Muskogee.
72 *The General Practitioner* as a Surgeon. A. S. Risser, Blackwell.
73 Treatment of *Gonorrhea in Women* by General Practitioner as Preliminary to Operation. J. F. Kuhn, Oklahoma City.
74 Pernicious Malarial Fever. G. A. Reber, Okemah.
75 Necessity *for the Early* Recognition of Peritonitis. G. H. Butler, Tulsa.

New Orleans Medical and Surgical Journal

July

76 *Amebic Colitis (Amebic Dysentery). W. E. Deeks and W. F. Shaw, Ancon, C. Z.
77 *Medical Treatment of Amebic Dysentery. W. V. Brem and A. H. Zeller, Cristobal, C. Z.
78 *Speech Defects: Treatment.* S. Spyker, New Orleans.
79 Roentgen-Ray Examination of *Gastro-Intestinal* Tract. A. Granger, New Orleans.
80 Indications and Contra-Indications to Curettage. J. C. Hardy, Lecompte, La.

76. **Amebic Colitis.**—The analysis of case records leads Deeks and Shaw to the following conclusions: Amebic colitis is due to a specific organism, the *Entameba histolytica*, probably water-borne and symbiotic in character. There is no endemic center. Immunity, as we understand it, does not exist. *Age, locality*, nationality, or occupation plays no rôle in the *etiology*. The pathologic lesions are peculiar and characteristic. *Amebicidal irrigations* are useless. The bismuth-milk-saline method of treatment gives, in almost all cases, a perfect result. Occasionally, in extreme cases, surgical interference, after A. B. Herrick's method, is indicated. Th method of treatment gives a maximum of cures with minimum of recurrences and metastatic development, tl most frequent of which is *liver abscess*. *This offers* a ser ous complication in the treatment, particularly if of the acut or fulminating types.

77. ***Treatment of Amebic Dysentery.***—The most logical an most important criterion of the efficacy of any treatment o amebic dysentery, Brem and Zeiler point out, is the eradica tion of the infection. The general treatment consists in rest appropriate diet, and opiates when indicated. For specifi treatment, irrigations with solutions of various parasiticida agents have proved unsatisfactory. The great superiority o the bismuth treatment over *irrigations* or even over treatmen merely by rest and *diet has not* been proved. Eradication o infection has not been *discussed in* the reports of the bismut treatment. Ipecac treatment has given satisfactory result in their hands. In a series of twenty-one patients wit dysentery the amebic infection has been eradicated i twelve that were followed, with frequent *examinations* of stools, for from one to fifteen months. The infection was apparently eradicated in eight others followed less than one *month*. In only one instance of amebiasis with *dysentery* have they failed to get rid of the amebas with ipecac treatment. Failure occurred in four cases of amebiasis without dysentery, but in these the treatment was not satisfactorily carried out. Two cases indicate that, *when ipecac* fails to eradicate the infection when given by *mouth*, succes may attend its *administration* per rectum or through the appendix after appendicostomy.

Maryland Medical Journal, Baltimore

July

81 Complete Transverse Destruction of Spinal Cord from Pistol Wound Without Penetration of Spinal Canal. R. Winslow, Baltimore.
82 Treatment of the Baltimore Drinking-Water with Hypochlorite of Calcium. W. R. Stokes, Baltimore.
83 Case of Trigger Finger. N. Winslow, Baltimore.
84 Douching and Fanning vs. Cold Sponging in Pneumonia. R. L. Hammond, Woodsboro.

Bulletin of the Medical and Chirurgical Faculty of Maryland, Baltimore

July

85 *Phylogenetic Association in Relation to Exophthalmic Goiter and Sexual Neurasthenia. G. W. Crile, Cleveland.

85. **Exophthalmic Goiter and Sexual Neurasthenia.**—Some of the principal points made by Crile are: The mechanisms by which the motor acts are performed, and the mechanisms by which the emotions are expressed are one and the same. These acts in their infinite complexity are performed by association, i. e., phylogenetic association. When our progenitors came in contact with excitation in their environment, action ensued then and there. There was much action—little restraint. Civilized man is subjected to innumerable stimulations without action. When these stimulations are sufficiently strong, but no action ensues, an emotion is produced. A phylogenetic fight is anger; a phylogenetic flight is fear; a phylogenetic copulation is sexual love—and so one finds in this conception an underlying principle which may be the key to an understanding of exophthalmic goiter. When through pathologic changes there is a constant stimulation of the whole motor mechanism from a hyperexcitability of the motor mechanism or what amounts to the same—a lowered threshold of the receptors that lead to action, and form an increase of activating internal secretions that apparently reciprocally excite each other—exophthalmic goiter is produced. Rest, which breaks the pathologic chain at the brain, excision of the thyroid, which breaks the pathologic chain at the thyroid, are the two recognized forms of treatment.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

July 1

Venous Anesthesia. A. C. Strachauer, Minneapolis.
Epidemic Jaundice. A. N. Collins, Austin.
Absence of Appendix and Gall-Bladder. A. A. Law, Minneapolis.

Mississippi Medical Monthly, Vicksburg

July

*Twelve Months' Work in Obstetrics. B. L. Culley, Jackson.
*Acute Hydramnios, Complicated with Ascites. F. J. Underwood, Nettleton.
91 *Limitations of a Laboratory. H. B. Wood, Jackson.
92 *Observations Made in Six Cases of Mechanical Ileus. H. R. Shands, Jackson.

89, 90 and 92. Abstracted in THE JOURNAL, May 27, 1911, pp. 1609, 1610 and 1612.

91. Abstracted in THE JOURNAL, May 20, 1911, p. 1503.

St. Paul Medical Journal

July

93 Diagnosis of Syphilis. J. M. Armstrong, St Paul.
94 Prophylaxis of Venereal Diseases. E. Klaveness, Sioux Falls.
95 Value of Blood Examinations in Surgical Infections. R. N. Andrews, Mankato, Minn.
96 *Some Suggestions and Personal Experience in Dealing with Hay Fever and Asthma. H. A. Beaudoux, St. Paul.

96. **Treatment of Hay-Fever and Asthma.**—Beaudoux believes that more diligent and painstaking investigation in regard to the condition of the nose and sinuses would increase the number of cures in this class of sufferers manifold. When an examination does not reveal accessory sinus disease, either by transillumination, intranasal examination, etc., with very rare exception, does he consider that as evidence that there is no disease present. In such cases he resorts first to the irrigation of the sinuses, second to the hardening of the mucous membrane by means of drugs and destruction of the nerve supply to sensitive areas; and should this prove to ameliorate the condition in a minor degree, he does not hesitate to resort to further investigation by surgical means. Barring such attention to conditions suggested and recommended by ordinary laws of hygiene, he has directed treatment to the organs and parts that are seemingly affected and included in hyperesthetic rhinitis and believes that measures less strenuously directed toward these parts are a waste of time. Whenever patients do not feel inclined to follow such recommendations as indicated, his advice is for them to seek some other locality where they may be free from their symptoms and enjoy their time and money in a less arduous way than to stay at home and attempt to fight the disease by less direct means.

Journal of Michigan State Medical Society, Battle Creek

July

97 Is Poliomyelitis of the Epidemic Type Transmitted Through Inhalation? J. G. R. Manwaring, Flint.
98 Simple Method for the Intravenous Administration of Salvarsan. J. J. Fabian, Grand Rapids.
99 Gastric and Duodenal Ulcer; Its Surgical Treatment. A. McLean, Detroit.
100 Cancer. F. A. Hargrave, Palo.
101 Acute Mastoiditis. C. R. Elwood, Menominee.
102 Immunology of Acute Infections. C. M. Stafford, Detroit.

Journal of Infectious Diseases, Chicago

June

103 Etiology of Canine Distemper. N. S. Ferry, Detroit.
104 *Contribution to the Pathologic Anatomy of Rocky Mountain Spotted Fever. E. R. Le Count, Chicago.
105 *Use of Active Human Serum in the Serum Diagnosis of Syphilis. F. B. Gurd, Louisiana.
106 Institutional Outbreak of Cerebrospinal Meningitis Restricted by the Elimination of Carriers. F. W. Hachtel and E. H. Hayward, Baltimore.
107 *Hand Infection Apparently Due to Bacillus Fusiformis. W. H. Peters, Cincinnati.
108 Attempt to Modify the Agglutinability of Bacillus Typhosus by Selective Isolation of Individual Bacilli. V. H. Moon.
109 *Murrina, a Trypanosomal Disease of Equines in Panama. S. T. Darling.
110 Paratyphoid-Like Bacillus Isolated from a Dog. E. H. Ruediger, Manila.
111 *A Bacteriologic and Cellular Study of the Lung Exudate During Life in Lobar Pneumonia. E. C. Rosenow, Chicago.

104. **Pathologic Anatomy of Rocky Mountain Spotted Fever.**—Le Count reports the results of six post-mortem examinations made by Ricketts on the bodies of persons dying of the disease. The cutaneous hemorrhages were general in all and varied from petechia no more than pin-head sized to large confluent and grotesquely shaped, bluish-black hemorrhages covering all parts of the body except the palms and soles. In a few of the bodies hemorrhages were observed in the pleura or omentum, in one instance in the substance of the lungs. The superficial and visceral lymph-glands were moderately enlarged. An icterus was always present. Enlargement of the spleen is quite characteristic of the disease. It was from two to three times the normal size in all the bodies examined. In other respects it was but little altered, fairly firm, and moderately hyperemic. A large infarct was present in one instance. The large veins and right chamber of the heart were distended with blood. The liver and kidneys were enlarged and hyperemic and in both organs varying degrees of cloudy swelling and fatty degeneration were met with. The changes in the other organs were neither marked nor constant enough to deserve mention, with the exception of the bone-marrow. In two bodies in which this was examined the marrow of the long bones was red to bluish-red.

105. **Active Human Serum Diagnosis of Syphilis.**—It was ascertained by Gurd that the natural complement content of human serum can be utilized in the serum test for syphilis if the serum be properly preserved and used when fresh. In addition the natural hemolysin against guinea-pig corpuscles can be employed in the hemolytic series in infants. The results obtained in over 600 tests have been uniformly trustworthy and have shown fewer errors than controls performed by the original Wassermann reaction and the Noguchi modification. Errors liable to give a false reaction, such as those occurring as a result of contamination of the serum with lipoids capable of binding the syphilitic antibody with the normal complement, giving a negative result with positive sera, are more readily noted if the complement present in the serum tested be determined at the time the reaction is performed. The fact that but very little agglutinin is present in human serum against guinea-pig corpuscles renders the

reading of the reaction easier than by methods using an artificially induced amboceptor, since in rabbit serum a sufficiently large quantity of agglutinin is produced to clump the erythrocytes, rendering the identification of a partial hemolysis very difficult. If serum to be tested is preserved in a uniform manner, preferably two hours in the incubator and subsequently in the ice-chest, it will be found to maintain its complement content usually for forty-eight hours and always for twenty-four hours. Older serum should not be used. For the testing of cases not adapted to examination by this method the author prefers the Noguchi system, utilizing quantities employed by Wassermann and with inactivated serum.

107. **Hand Infection Due to Bacillus Fusiformis.**—Peters' paper consists, essentially, in a preliminary study, microscopic and bacteriologic, of *B. fusiformis.* Two cases are recorded of direct transmission from one individual to another. The fusiform bacilli were not accompanied by spirochetes. The organism grew luxuriantly on Dorset's egg medium, and in various sugar broths containing a small amount of defibrinated rabbit blood. Mention is made of its resistance to moist heat, antiformin and hydrogen peroxid.

109. **Murrina, a Trypanosomal Disease.**—There has been an epidemic of trypanosomiasis among American mules and work horses in the Canal Zone. The disease resembled other trypanosomal diseases such as nagana, surra, mal de caderas, and Senegambian horse disease; but it presented a group of symptoms and pathologic features which stamp it as a distinct disease. It is distinctly a disease of mules and horses, for cattle are insusceptible. The pathogenic agent, *T. hippicum,* has morphologic and biologic characters which differentiate it from other species of trypanosomes. The chief distinguishing features of the disease are: anemia, weakness, emaciation and edema, conjunctival ecchymoses, conjunctivitis, pyrexia and some posterior paresis. The pathologic findings are constant and characteristic: splenic capsular ecchymoses, acute hemorrhagis nephritis, with acute glomerulitis and petechia; hemorrhages in renal lymph-nodes, epicardial and endocardial ecchymoses, and less constantly pleural, peritoneal, and conjunctival ecchymoses, and pleural effusion. The blood changes are those of anemia with lymphocytosis. There is much phagocytosis of blood-pigment by endothelial cells of the liver and spleen. Darling believes that the disease is probably transmitted mechanically by flies through the broken skin of cuts and various wounds. Saddle horses were *not* infected, and there are no evidences that any animals were infected by means of stomoxys or tabanids or by ticks or bats.

111. **Lung Exudate in Lobar Pneumonia.**—The most striking fact brought out by Rosenow's study is the great difference in the number of viable pneumococci in the consolidated lung in the later stages of the disease in the cases which recover and in those which die; in the former they are relatively few, in the latter they are very numerous.

Denver Medical Times and Utah Medical Journal, Denver

July

112 Mental Influence in Digestion. E. J. A. Rogers, Denver.
113 Financial Side of Dentistry. R. P. McGee, Denver.
114 The Social Evil. W. Anderson, San Francisco.

Buffalo Medical Journal, New York

July

115 Three Years with the Army of the Potomac. W. W. Potter, Buffalo.
116 Cerebral Compression. E. R. McGuire, Buffalo.
117 *Early History of Medicine in America.* R. Park, Buffalo.

New York Medical Journal

July 8

118 Recent Developments *in* Physiology and Pathology of the Thyroid. S. P. Beebe, New York.
119 Simple Method of Viewing Roentgenograms in Three Dimensions. M. Girsansky, New York.
120 *Simplified Technic for Retrodisplacement of Uterus in Performing Baldy-Webster Operation. A. L. Soresi, New York.
121 *Improved* Technic of Intravenous Administration of Salvarsan by Means of Vacuum Burette. A. A. Uhle and W. H. Mackinney, Philadelphia.
122 In What Treatment May the Tuberculous Have Confidence? P. Paquin, Asheville, N. C.

123 *Effect of Artificially Induced Fever on Some Chronic Inflammatory and Ulcerative Lesions. H. Neuhof, New York.
124 *Diagnosis by Inspection.* J. G. Wilson, Ellis Island, N. Y.
125 *New Diluting Fluid for Counting Leukocytes. R. L. Pitfield, Philadelphia.

120. **Retrodisplacement of Uterus.**—In the technic proposed by Soresi a hairpin is used instead of the two forceps to catch the round ligaments and push them through the broad ligaments. The hairpin will perforate the broad ligament close to the uterus and directly under the ovarian ligament on each side of the round ligament. Until the sutures are put in, the uterus can be held up by the two hairpins, which are then withdrawn.

123. **Effect of Artificially Induced Fever on Chronic Inflammatory and Ulcerative Lesions.**—Coley's fluid was employed by Neuhof to secure observations of the effects of artificially induced pyrexia on chronic inflammatory and ulcerative lesions. The following experience first indicated that artificially induced fever might be beneficial in cases of chronic ulcerative disease. A man, aged 40 years, had been suffering for several years from a slowly progressive ulceration of the nose that had resisted all forms of therapy. Finally he had an attack of acute osteomyelitis of the femur accompanied by high temperature for several days. During this attack the patient noted the first improvement he had ever observed in the appearance of the ulcer—the lesion was cleaner and healthier looking. Soon after the attack had passed off, the ulcer assumed its original appearance. After some preliminary study, suggested by the improvement observed during the attack of osteomyelitis, injections of Coley's fluid were begun. The doses were made large enough to produce sharp febrile reactions. After each injection, redness and swelling of the base and edges of the ulcer were observed. In a few weeks, during which time the mixed toxins were injected every third or fourth day, the ulcer entirely healed. Several other similar cases are reported, the result in each case from the use of the fluid being the same. Neuhof has not yet determined on the exact amounts of Coley's fluid to be administered to these groups of cases, but it appears best to begin with small doses and gradually increase the amount until sharp general and local reactions are experienced. Patients sometimes feel depressed and miserable for a day following injections, even though there may have been but slight elevation of temperature. No other untoward manifestations have been observed after the administration of mixed toxins to these patients.

125. **New Diluting Fluid for Counting Leukocytes.**—The fluid used by Pitfield is as follows: Acacia gum, 20 gm.; distilled water, 50; mix, dissolve, and add glacial acetic acid, 50; gentian violet, 1 dg.; mix, warm and filter while warm through a wet filter. He finds that this makes a superior diluting fluid in counting leukocytes because it is viscid and for this reason does not flow out of pipettes easily, and these can be filled more accurately because the fluid flows much more slowly. Neater drops and of definite size may be slowly put up on the counting chamber. The pipette filled may be carried without fear of spilling the contents. The leukocytes do not settle in the mixing chamber quickly and remain evenly distributed throughout the fluid. The end of the pipette must be wet before the fluid can be blown out. The end of the pipette is sealed with the acacia. These are the chief advantages. There are disadvantages. It takes longer to suck up the diluting fluid and a little longer to mix blood and fluid; the fluid is sticky; pipettes are harder to clean. But the greater ease of controlling the fluid and accuracy makes one recommend it to busy doctors who make leukocyte counts from the patient.

Virginia Medical Semi-Monthly, Richmond

June 23

126 Roentgen Irradiation—Its Local and General Effects. J. W. Hunter, Norfolk.
127 The Ileo-Cecal Fold and Chronic Appendicitis. J. S. Horsley, Richmond.
128 *Is Pellagra a Disease Primarily of the Alimentary Tract? J. C. Johnson, Atlanta, Ga.
129 Doctor's Duty to Himself in the *Face of Adequate Public* Prophylaxis. *R. K.* Flannagan, Richmond.
130 Care and *Management of* the Breasts. C. W. Doughtie, Norfolk.

July 7

131 Surgical Treatment of Indigestion. J. E. Rawles, Suffolk.
132 Case of Progressive Muscular Dystrophy (Primary Myopathy). B. E. Washburn, Charlottesville.
133 Tracheotomy—Report of Cases. O. A. M. McKimie, Washington.
134 *Germ Diseases—Analogy of, Nature's Means of Cure, Bacteriology, etc., Specific Treatment—Report of Cases. H. E. Jones, Roanoke.
135 Internal Podalic Version—Its Technic and Indications. E. B. Claybrook, Cumberland, Md.
136 Differential Diagnosis in Abdominal Injuries in Railway Surgery. S. S. Gale, Roanoke.
137 State Sanitarium for Drug Habitués. A. B. Grubb, Cripple Creek.

128. Abstracted in THE JOURNAL, June 10, 1911, p. 1753.

American Journal of Surgery, New York

July

138 *Relation of the Cervical Smear to the Diagnosis and Treatment of Diseases of the Fallopian Tubes. A. H. Schmitt, New York.
139 Anesthesia as Exciting Factor in Causing and Exaggerating Organic Disease. H. B. Ingle, Philadelphia.
140 Reply to a Criticism of the Technic of Ureteral Catheterization of Dr. Howard A. Kelly. H. A. Kelly and C. F. Burnam, Baltimore.
141 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
142 *Rapid Method of Healing Abscess of Breast. I. Seff, New York
143 *Removal of Foreign Body from Right Bronchus by Upper Bronchoscopy, New Method of Passing Bronchoscope. R. H. Johnston, Baltimore.
144 *Otitic Meningitis Presenting Unusual Symptoms. S. Oppenheimer, New York.
145 Multiple Fungoid Papillomata of Larynx. W. W. Carter, New York.
146 Penetrating Stab Wound of Abdomen Involving Mesentery, Jejunum and Transverse Colon; Recovery. W. C. Cramp, New York.

138. **Cervical Smear.**—Based on observations made in thirty-nine cases. Schmitt recommends that if the history of the case be acute, and the cervical smear positive, palliative treatment should be instituted and continued for at least four weeks. Abdominal section should not even then be preferred unless the cervical smear is negative and the blood-count and temperature normal. If at any time during this period an extra-tubal pelvic abscess should develop the proper treatment is to open it by vaginal section. Should the history date back one or two months, with a normal temperature and blood-count, and a negative cervical smear, abdominal section may be safely undertaken at any time, provided the patient's condition warrants.

142. **Healing Abscess of Breast.**—In the case of abscesses situated in other parts of the body, Seff found that by simple puncture and evacuation of pus followed by irrigation with a solution of bichlorid of mercury and the subsequent injection of tincture of iodin or Lugol's solution, the abscesses healed with extraordinary rapidity, usually within five to ten days and with practically no scar. So far as breast abscesses are concerned, Seff's experience has led him to formulate the following rules for guidance in the treatment of suppurative conditions of the mammary gland: On the first appearance of localized pain, tenderness and induration, he advises the constant application of heat in the form of hot compresses for twenty-four to forty-eight hours. Under this treatment the indurated area becomes absorbed and the breast returns to the normal in a few days. However, if pus is already present, the application of heat hastens the softening of the indurated area and indirectly leads to the earlier evacuation of the pus by surgical means. As soon as a definite area of softening makes its appearance, a very small stab wound or puncture is made with a scalpel, and the pus is allowed to escape. The cavity is then washed repeatedly with a 1-5000 solution of bichlorid of mercury. With a small hand syringe the abscess cavity is then filled with undiluted tincture of iodin. The application of the iodin usually produces a moderate amount of pain of a burning character, which lasts but a few minutes. Within a very short time there develops an area of redness extending for a considerable distance beyond the confines of the abscess. This usually persists throughout the whole period of healing. Seff employs neither packings nor drains of any kind. A wet dressing of liquor Burowii is usually applied. The bichlorid of mercury solution and the tincture of iodin are used at subsequent dressings (usually at intervals of twenty-four to forty-eight hours), as long as the discharge continues to be purulent in character. When the discharge becomes serous, iodin alone is injected and a firm, dry dressing is applied. Within twenty-four hours after the first application of the bichlorid of mercury and the tincture of iodin there develops a well-marked zone of induration in the abscess wall. This persists during the entire period that the abscess discharges and gradually disappears within ten days after the abscess cavity has completely healed. In the majority of the cases healing takes place within ten to fourteen days. The original incision being practically a puncture wound leaves a barely visible scar. Six cases have been treated by Seff by the above method, four in lactating women and two in virgins. In none of these were complications present, nor was a repetition of the incision necessary. Secondary abscesses did not occur. Lactation was resumed at the end of the sixth day in all the nursing women.

143. Abstracted in THE JOURNAL, June 8, 1911, p. 165.

144. **Otitic Meningitis.**—The points of interest in Oppenheimer's case are: The undoubted existence of areas of cer bellar meningitis, present at the time of the primary ma toid operation, but with no recognizable evidences of th lesion. The development of aphasia, which is a very unusua symptom in connection with an uncomplicated meningitis. This latter symptom is due to the fact that the temporal lobe on the base has no known function, and, according to Starr, if the disease advances upward on the left side, a sensory aphasia may result.

Journal of Cutaneous Diseases, New York

July

147 Progress in Dermatology. D. W. Montgomery, San Francisco.
148 Sarcoid Tumors of the Skin, with Report of Case of Boeck Type. G. H. Fox, New York.
149 Histologic Changes Occurring at Site of Injection of 0.6 Gram of Salvarsan. E. D. Lovejoy, New York.

Louisville Monthly Journal of Medicine and Surgery, Kentucky

July

150 Chronic Dyspepsia. C. G. Lucas, Louisville.
151 Optic Atrophy from Enlarged Pituitary Body. S. G. Dabney, Louisville.
152 Carbuncle. J. E. Hays, Louisville.
153 Arteriosclerosis; Report of a Case. B. C. Frazier, Louisville.
154 Hemophilia in an Infant; Report of Case. B. C. Frazier, Louisville.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 24

1 *Early Recognition and Prevention of Cancer of Stomach. J. Sherren.
2 Acute Jejunal Obstruction in Case of Advanced Pregnancy: Operation: Recovery. E. A. Roberts and F. C. Wallis.
3 Treatment of Appendicitis in Children. W. A. Rees.
4 *B. Pyocyaneus Infection in Dogs and Its Similarity to Rabies. W. F. Harvey, R. M. Carter and H. W. Acton.
5 Case of Blackwater Fever in England. J. Booth.
6 *Rapid Treatment of Gonorrhea. A. C. Magian.
7 *Epidemic of Infectious Jaundice. K. R. C. Hallowes.
8 *Chloroform During Sleep. I. Jefferiss.

July 1

9 Case of Sporotrichosis. N. Walker and J. Ritchie.
10 *Carcinoma of Larynx. R. H. Woods.
11 Some Cases of Chronic Jaundice in which Opening of Duodenum was Required. H. B. Robinson.
12 *Two Cases of Removal of Part of Pericardium. Its Repair by Means of Pectoral Muscle. A. W. M. Robson.
13 Sulphur Miners of Sicily: Their Work, Diseases and Accident Insurance. Sir T. Oliver.
14 Experiments on Restoration of Paralyzed Muscles by Means of Nerve Anastomosis. R. Kennedy.
15 *Subtemporal Decompression Operation for Intracranial Pressure. J. Stewart.
16 *Blue Sclerotics and Brittle Bones. H. Burrows.
17 *Temperature in Croupous Pneumonia. William Downing.
18 Gastro-Intestinal Hemorrhage in New-Born Infant. T. Fentem.

1. **Cancer of Stomach.**—Inasmuch as at least one-third of all cases of carcinoma of the stomach arise in connection with gastric ulcer, Sherren believes these cases could be prevented. There is little doubt, he says, that acute gastric and duodenal ulceration is a septic disease. Acute ulcers of the stomach and duodenum are frequently found post mortem in cases of

appendicitis, urinary sepsis, burns, etc. Cell poisons circulating in the blood lower the resistance of the gastric cells so that autodigestion takes place, or minute suppurative foci occur in the lymphatic follicles along the lesser curvature. Sherren emphasizes that oral sepsis is a fertile cause of gastric ulcer, and hence one of the predisposing causes of cancer of the stomach. It is no uncommon thing for him to have to delay operation on patients with undoubted organic gastric disease of long standing until carious stumps have been removed. It is not known with certainty why many acute ulcers heal and others do not. Sherren suggests that it may be that oral sepsis has something to do with it. Every acute ulcer, whether of the type found in the disease called gastrostaxis or not, should be treated by rest in bed and suitable medical measures after all carious teeth have been dealt with. Chronic gastric ulcer should be treated in the same way unless signs of pyloric stenosis or hour-glass stomach are present, or hematemesis occurs, when the surgeon should be called in. If rest fails to relieve or symptoms recur on resuming work, surgical treatment should be adopted. Chronic simple ulcers of any part of the stomach or duodenum will heal after a well-planned gastrojejunostomy and efficient after-treatment. If the ulcer is large, or markedly indurated, or if there is any suspicion of malignancy, it should be excised in addition. Attention to the hygiene of the mouth, thorough treatment of acute and early chronic gastric ulcer, handing over to the surgeon those in the latter group that fail to respond to or relapse after treatment, would, Sherren says, greatly diminish the incidence of carcinoma of the stomach.

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region and an extradural hemorrhage. The whole exposed area was cleared of blood clot. The effect of these measures was immediate. The pulse improved to 72. The dilatation of the left pupil disappeared. The breathing changed its character. Within a few minutes the patient moved his right arm and leg. He made an uninterrupted recovery.

16. **Blue Sclerotics and Brittle Bones.**—In the pedigree prepared by Burrows, which represents four generations, two nteresting facts may be observed. In the first place, there is no instance of transmission of blue sclerotics except from a parent who actually showed that condition. The children of those members of the family who had white sclerotics themselves had white sclerotics without exception. Second, not a single case of fracture was known to have occurred among the members who had normal sclerotics, although the other individuals suffered with exceptional frequency from broken bones. The fractures had, in many instances, been caused by relatively slight violence. For example, a child sat down suddenly on the nursery floor, and was found to have broken its femur. A lady thought she had reached the bottom of the stairs when there was one step more, and she fractured her tibia. Of the twenty-nine individuals concerned, thirteen had blue sclerotics, and of these no fewer than nine suffered from brittle bones. No details are obtainable with regard to two persons. Among the remaining fourteen individuals, who had white sclerotics, there was not a single one who was known to have sustained a fracture. Of the nine persons said to have had brittle bones, seven have suffered from multiple fractures.

17. **Temperature in Croupous Pneumonia.**—In the case reported by Downing, the morning temperatures were higher than the previous evening temperatures and the accompanying symptoms appeared aggravated during the day. Crisis took place during the daytime.

Lancet, London

July 1

19 Temperaments: Is There a Neurotic One? R. Jones.
20 Outlines of Medical Hydrology. R. F. Fox.
21 *Chemical Study of a Case of Cyclic Vomiting, with Some Remarks on Creatinuria and Acidosis. E. Mellanby.
22 The Physiologic Ideal in the Artificial Feeding of Infants. J. Snowman.
23 Success or Failure in Electrotherapy. S. Sloan.
24 Case of Troph-Neurotic Anemia. T. W. Parry.

21. **Chemical Study of Cyclic Vomiting.**—Even if the causal connection between acidosis and diabetic coma is accepted, Mellanby says there can be but little doubt that the acidosis as such, accompanying fever, gastro-enteritis, delayed chloroform poisoning and cyclic vomiting, and many other conditions, is never of symptomatic significance. In other words, the term acid intoxication, in the real sense of the word, applied to these conditions, is a misnomer. The quantities of β-oxybutyric acid and other acetone bodies excreted in these conditions are small—i. e., 10 to 15 gm. at the most—compared with the quantities excreted in diabetes, e. g., one of Magnus Levy's patients excreted 160 gm. per diem, and it is difficult to see how they could possibly produce symptoms. As regards the case described, acidosis was merely a symptom and had nothing whatever to do with the attacks of cyclic vomiting.

Journal of Tropical Medicine and Hygiene, London

June 15

25 Egyptian Schistosoma Hematobium and Allied Forms. A. Looss.
26 Epidemiology of Amebiasis in Southern United States and Absence of Liver Abscess in the Same Regions. H. D. King.
27 Report of a Case of Blackwater Fever in British North Borneo. H. J. McGregor.

Bristol Medico-Chirurgical Journal, London

June

28 Rhizotomy. E. W. H. Groves.
29 School Hygiene. J. O. Symes.
30 Design for an Elementary Radiographic Camera. W. Cotton.
31 Medical Aspect of Boswell's "Life of Johnson," with Some Account of Medical Men Mentioned in That Book. B. M. H. Rogers.
32 *Auricular Fibrillation. C. E. K. Herapath.
33 Furunculosis. L. S. Smith.
34 Four Cases of Cysts in the Neck of Similar Character, and Possibly Developed in Connection with Branchial Clefts. C. A. Morton.
35 Ataxia in Child Aged Three and a Half Years. E. C. Williams

32. **Auricular Fibrillation.**—In Herapath's opinion auricular fibrillation can be recognized without resort to polygraphic tracings. He says that if one relies on a continuous and complete irregularity, not on an occasional one, a visible systolic pulsation in the veins of the neck, and signs of venous engorgement with the absence of a presystolic murmur, there will be few cases in which the diagnosis will be wrong.

Bulletin de l'Académie de Médecine, Paris

June 13, LXVI, No. 24, pp. 655-674

36 *Cerebrospinal Meningitis with Primary Localization in the Ventricles. Recovery After Trephining and Intraventricular Serotherapy. H. Tilboulet and Others.
37 *Gymnastic Exercises for Education of the Intestines as Treatment for Habitual Constipation. (De la gymnastique abdomino-rectale appliquée au traitement de la constipation habituelle.) C. Fernet.

36. **Intraventricular Serotherapy in Cerebrospinal Meningitis.**—One child, 2 years old, showed no improvement after intraspinal injection of antimeningitis serum, the twentieth day of the disease, and 15 c.c. of the serum was then injected directly into the lateral ventricle, after which the child recovered. Meningococci were found in the ventricles, but not in the cerebro-spinal fluid until a few days after the intraventricular injection. When this injection was made the affection was extremely grave, the head enlarging and the child apparently idiotic and blind, unable to sit up or stand. Improvement was very gradual, but in two or three months the child was apparently normal once more.

37. **Gymnastic Exercises in Treatment of Constipation.**—Fernet says that if a mother would take the trouble to hold her baby over the vessel at regular intervals the child would soon learn to defecate and urinate at these times and could be kept clean and dry all the time. Regular habits should be continued into childhood, and he urges that teachers should insist on the children's having defecated before they come to school. The exercises which he has found an effectual aid in training the adult intestines to regular functioning are a series of deep breathing movements before rising in the morning, expanding and retracting the abdominal walls, alternating this "abdominal dancing" with light automassage of the large intestine, repeating these procedures four or five times. They can be repeated anew after breakfast, with a series of moderate retracting and expelling movements of the anus. These exercises act indirectly by reflex influences on the rectum higher up. The sluggish musculature throughout the abdomen feels the effect of all these exercises and the vicious circle of the bad habits of the lazy bowels is broken up. In the discussion that followed Fernet's communication, Monod said that among primitive peoples, ignorant of seat closets, habitual constipation is rare, and that the squatting attitude at defecation protects the inguinal canal against hernia during straining.

Bulletins de la Société de Pédiatrie, Paris

May, XIII, No. 5, pp. 221-252

38 Enlarged Tracheobronchial Glands. (Adénopathie trachéobronchique.) H. Barbier and V. Veau.
39 The Cerebrospinal Fluid in Tuberculous Meningitis. A. Netter and A. Gendron.
40 The Respiration Index in Mouth Breathers. (L'indice respiratoire dans l'insuffisance nasale de la seconde enfance.) P. Merklen.

Lyon Médical, Lyons

June 4, CXVI, No. 23, pp. 1001-1044

41 Occupational Dermatitis. (A propos des dermites professionelles.) P. Jourdanet.

June 11, No. 24, pp. 1045-1100

42 Persisting Communication Between the Auricles with Anomaly in the Coronary Valve. C. Lesieur, J. Froment and R. Crémieu.

Presse Médicale, Paris

June 17, XIX, No. 48, pp. 501-516

43 Action of Organic Arsenical Preparations on the Ear. (Accidents auriculaires au cours du traitement de la syphilis par les produits arsénicaux organiques.) H. Gaucher and H. Guggenheim.
44 Treatment of Paralytic Pes Cavus. (Paralysie du triceps sural.) M. Ducroquet.
45 Mobilization After Dislocation of the Shoulder. A. Yvert.

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58. **Counting Machine for Differential Leukocyte-Count.**—The apparatus described shows at a glance the percentages of the various types of cells and simplifies the work while impressing the findings and the principles of the Arneth blood-formula on students. The count is made with steel ball-bearing balls poured into eight graduated glass tubes arranged in an upright standard, each tube corresponding to a special type of blood cell and graduated in divisions corresponding to the diameter of the balls and calculated for a hundred balls. The details of the apparatus are shown in eight illustrations, and it is commended as very simple and reliable.

59. **Colic with Cholecystitis Without Gall-Stones.**—Solieri reports a case in which hemorrhages in the gall-bladder induced typical gall-stone colics, although there were no concrements in the bile passages. The patient was a girl of 20, who was convalescing from typhoid when the first colic was experienced, acompanied by signs of cholecystitis. The colics recurred once or twice a month, and in the fifth month a laparotomy revealed an ulcerative hemorrhagic affection of the mucosa of the gall-bladder. The efforts of the gall-bladder to expel the accumulated blood had evidently been the cause of the colics, as was confirmed by observation of a recurring attack of the kind during convalescence from the operation. The fistula into the gall-bladder was kept open for a time to permit complete healing of the lesions, which had evidently been persisting since the typhoid fever, but the patient was finally entirely cured by the end of three months.

60. **Reduction of Recent Dislocation of the Shoulder.**—Wagner extols the advantages of the method described as not requiring assistance and as seldom requiring general anesthesia, while the pain is much less than with other methods of reduction and there do not seem to be any by-effects. He summarizes the details of twelve cases in which he has applied it with excellent results in all but two; no anesthetic was needed in eight of the cases, and merely the ether *Rausch* in the ninth. In another case nothing but prolonged extension with pressure on the head of the humerus finally conquered the dislocation. The fall on the outstretched hand or elbow forces the arm into extreme abduction, and the edge of the glenoid cavity toward the acromion acts as the fulcrum of a lever, prying by leverage action the head of the humerus out of the glenoid cavity, the capsule tearing at its weakest point the lower and internal part. Reduction is done by applying a fulcrum at another point and levering the head back into its place again by reversing the leverage action. This he acomplishes with a fulcrum in the axilla in the form of a long roll of cotton about 10 cm. in diameter pressed tight and fastened in the axilla by a band around the other side of the neck. The elbow is then pushed toward the body, over this fulcrum in the axilla, drawing the elbow a little forward and relaxing the pressure if muscular resistance is offered, waiting for it to relax before continuing the movement aiming to lever up the head of the humerus. At the same time the forearm is lightly rotated outward; the head then glides noiselessly or with a little jerk into place, and all are astonished at the ease with which it was done. If the patient has complained much of pain before reduction is attempted, it may be wise to give a small dose of morphin. With a recent subcoracoid dislocation this procedure is almost certain to prove successful in a few seconds or minutes, Wagner insists.

Deutsche Zeitschrift für Chirurgie, Leipsic

June, CX, Nos. 1-3, pp. 1-310

63 *Stenosis After Reduction of Incarcerated Hernia. (Genese der nach Reposition eingeklemmter Hernien entstehenden Darmstenosen.) H. Matti.
64 Abdominal Colloid Cysts. (Grosser gallertiger Erguss in der Bauchhöhle; Cysten mit gallertigem Inhalt im Bauchfell und in der Bauchwand; Umwandlung von Cysten in bindegewebige Knötchen.) E. Moser and G. Ricker.
65 *Connection Between Contusions and Cancer. (Zusammenhang von stumpfen Traumen mit der Entstehung von Carcinomen und Sarkomen.) A. Theilhaber.
66 Action of Thiosinamin on Cicatricial Tissue. (Experimentelle und klinische Untersuchungen über die Wirkung des Fibrolysins auf narbiges Gewebe.) P. Sidorenko.
67. Extension in Treatment of Fracture of the Upper Arm. O. Grune.
68 Cure of Invagination of the Ileum by Resection. (Beitrag zur Behandlung der Darmeinstülpungen.) T. Haagn.
69 Multiple Spleen-Like Formations Found in the Peritoneum Six Years After Splenectomy. R. Faltin.

70 Thrombosis of Cavernous Sinus Not of Otitic Origin. K. Otto.
71 Dislocation of the Pelvis. (Beckenluxationen.) H. Finsterer.
72 Extension in Treatment of Fractures of the Legs. O. Grune.
73 Gangrenous Inner Loop with Retrograde Incarceration. (Brandige "innere Schlinge" bei Vorfall nur einer Schlinge im eingeklemmten Leistenbruch.) W. Mintz.
74 *Operations Under Differential Pressure. (Ueber Druckdifferenzoperationen.) K. Friedmann.
75 Movable Cecum. (Das Coecum mobile.) T. Hausmann.
76 Incarcerated Intersigmoid Hernia. A. W. Krall.

63. **Stenosis of the Intestine After Incarcerated Hernia.**—Matti reports a case from Berne and reviews similar ones from the literature, his conclusion being that in case of doubt it is better to resect the intestine. Especially is this necessary when the groove left by the constriction does not recuperate with the rest of the intestine after reduction, but remains thin, showing that the mucosa has probably been injured beyond repair, and will lose its vitality either directly or secondarily, so that stenosis is liable. An exploratory incision is scarcely necessary, as even direct inspection is unable to decide the question of its vitality. He protests against all attempts at taxis that require force. The important point to bear in mind is that the stricture can develop from the mucosa and submucosa alone, the other layers of the intestine being still intact. Also that it is a mistake to ascribe very much vitality to a loop that has been incarcerated.

65. **Cancer Following Contusions.**—Theilhaber reviews 148 cases of carcinoma and 324 of sarcoma developing at the site of a contusion. The interval was minimal in fifty-nine of the carcinoma cases and in 180 of the sarcoma cases; six months in eleven and sixty-nine, respectively; a year in eighteen and forty; two years in fourteen and thirteen; from three to five years in twenty and fourteen; from five to ten years in eleven and three, and over ten years in fifteen and five. The location of the cancer was in the breast in 148 of the cases of carcinoma and in ten with sarcoma; on the legs in two of the former and 140 of the latter. The carcinomas were most frequent between the ages of 40 and 70, while the sarcomas were most frequent under 40. In prophylaxis he warns that the traumas affecting the breast had left a lump which persisted unmodified for years sometimes before the cancer developed. It is important, therefore, to treat every contusion of the breast with great care and strive to promote the absorption of any hard lump left. Theilhaber has long advocated hyperemia in treatment of parts of the body threatened with cancer. He applies superheated air regularly after removal of a cancer, as all large scars afford a predisposition to malignant disease. His results, he states, have been very gratifying, and they justify the use of superheated air as a prophylactic measure after all contusions of the breast. He also suggests that more energetic measures against inflammation should be applied at all points of the body where a sarcoma is liable to develop after a contusion, and that they should be kept up longer than is generally customary.

74. **Operations Under Differential Pressure.**—Friedmann reviews the experiences in this line at the surgical clinic at Berlin in charge of Bier. Thirteen operations on the chest or stomach were performed under this technic, including seven on account of cancer or tuberculosis requiring extensive resection of the chest wall, and a case of extensive cancer of the stomach and cardia. Details are given showing advantages of the various technics, results being tabulated for comparison. The general impression is not very favorable, the mortality having been 50 per cent., scarcely 40 per cent. having been benefited by the operation. It is the rule at the clinic, however, to have the differential pressure apparatus ready at every operation on the chest, but it is not used unless conditions are very serious, so that only the gravest cases are included in this review, the differential pressure being applied as the operation is attempted only as the last resort.

Medizinische Klinik, Berlin

June 18, VII, No. 25, pp. 955-990

77 *Unusual Forms of Diabetes Mellitus. J. Grober.
78 Practical Importance of Dimples, Fistulas and Dermoid Cysts in Sacral Region. (Sakrale Dellen, Fisteln und Dermoidcysten.) F. Honigmann.
79 *Gastric Hyperacidity and Gastric Ulcer. (Ueber Hyperaciditätsschmerzen und Ulcus ventriculi.) H. Schur. Commenced in No. 24.

ination of urochromogen in the urine is also proving a useful guide for dosage of tuberculin during this specific treatment. The findings with the *diazo reaction confirm* the necessity for greater caution in the dosage of tuberculin for children *and for* women. Weisz thinks that women should not be given over a tenth of the dose customary for men and children not over a *hundredth*. It is then a simple matter to increase the dose if the diazo findings indicate tolerance. *He explains the diazo* reaction as the expression of some toxic disturbance of the cell metabolism throughout the organism, but it does not occur until the toxins produced get into the circulation, and consequently it *does not* appear so early in tuberculosis as in measles and typhoid, tuberculosis being *more of a local affection* at first. When the tubercle bacilli secrete enough toxins to induce a general toxemia, then the diazo reaction becomes positive and it fluctuates with the vital activity of the bacilli, dying out as the latter *become quiescent or die. He* ascribes the production of cavities to the destructive action *on* the environing tissues of the bacilli toxins when the oxidating power of the cells in question has been impaired; urochromogen appears in the urine in consequence. *He* has never witnessed a cure under tuberculin *when the diazo reaction* was previously positive and he inquires what has been the experience of others in this line. Patients with processes advanced to the stage of the diazo reaction do not seem to bear tuberculin well.

100. **Water-Closet Plunger Worked by the Foot.**—*Hartung* expatiates on the insanitary features of having the water closet operated by a handle or chain to be taken in the hand. He suggests that a knob or pedal worked by pressure of the foot would be far more sanitary and prevent much contagion.

Therapie der Gegenwart, Berlin

June, LII, No. 6, pp. 241-288

101 *Therapeutic Lumbar Puncture. *H. Curschmann.*
102 *Liver Syphilis. (Fall von tertiärer Leberlues.) H. Günther.
103 *Permanent Cure of Sarcoma of Stomach. *(Dauerheilung* eines Magensarkoms durch Resektion vor 7½ Jahren.) O. Hesse.
104 Sex, Age and Constitution Afford no Predisposition to Plague. (Gibt es eine Prädisposition von Geschlecht, Alter und Konstitution bei Infektion durch die Lungenpest?) B. Budberg.
105 *Treatment of Measles and Bronchopneumonia. A. Baginsky.
106 *Local Treatment of Chronic Cough. (Radikale Therapie des chronischen Hustens.) W. Wolfram.

101. **Therapeutic Importance of Rachicentesis.**—Curschmann has witnessed complete recovery follow a single lumbar puncture in a number of cases of serous meningitis and of the meningeal trouble which seems to be the equivalent in the meninges of circumscribed *edema elsewhere.* One patient was a girl of 20 brought to the hospital in profound coma, all the reflexes abolished, the Babinski sign positive, and all the signs of severe pressure on the brain for several days. The patient collapsed after the lumbar puncture, and injections of camphor were *necessary* at first, but she then rapidly recovered and has been in good health for over three years since. In another case a man of 58 has had six recurring attacks of serous meningitis in the course of the last year; rachicentesis gave great relief, releasing a clear *and* sterile fluid under high pressure *each time.* Lumbar puncture with suppurative and infectious serofibrinous meningitis is less promising but even then the results are better than with any other measure known to date. In two cases of severe influenzal meningitis with bacilli *in* the fluid and polynucleosis, the intense headache and pains in the back of the neck subsided entirely after the lumbar puncture and the patients rapidly recovered. These cases when compared with the tedious convalescence and paralysis and atrophy observed in *influenzal* patients not treated by lumbar *puncture* testify eloquently, he remarks, to the value of this procedure. He has also witnessed similar good effects in a case of streptococcus meningitis following erysipelas of the head. Meningitis originating in the ear does not respond so well to lumbar *puncture*, but it is one of the most valued measures in treating epidemic meningitis. Curschmann does not approve of injecting a disinfectant into the spinal canal, although a very weak saline or boric acid solution might occasionally have a favorable effect. Sir Victor Horsley's intradural injection of mercuric bichlorid solution in progressive paralysis and cerebrospinal syphilis is looked on askance by German neurologists. Lumbar puncture is useful in differentiation of tuberculous meningitis but is of little avail in *treatment, although the disease* in some cases has a tendency to spontaneous remissions. *He reviews the* various other affections in which rachicentesis has proved useful, and in conclusion urges the general practitioner to familiarize himself *with the* technic *until* it becomes as much of a routine procedure as *puncture of the pleural or abdominal* cavity.

102. **Syphilis of the Liver.**—*In the case* reported the patient was a woman of 31, apparently healthy, until she *began* in 1906 to have pains in the gall-bladder region, gradually growing more severe and sometimes accompanied with vomiting. *By 1908 the attacks of* pain recurred every day and there was persisting jaundice. The gall-bladder was *opened and* some gall-stones removed, but persistence of the pains led to cholecystectomy in January, 1910. The continuance of trouble suggested cancer of the liver with metastasis, but a tentative *course of potassium iodid* was *commenced* in February and the assumption of syphilis was confirmed by development of a gumma on the leg. An injection of salvarsan was *given* in September but the progress of the tertiary syphilis *did not seem to be arrested and* the patient succumbed a month later. Necropsy revealed gummatous cirrhosis of the liver. The amenorrhea might have earlier suggested a syphilitic affection, as also the shifting symptomatic picture, the *partial improvement* under potassium iodid, the fever as indicating *absorption of the products* of the *gummatous* tissues—the breaking down of the gummata inducing recurring attacks of chills, high fever, increase in the jaundice and acholia, the terminal attack being accompanied by progressive peritonitis and heart weakness. The patient *had been under hospital* care at intervals since 1908, but syphilis does not seem to have been suspected until early in 1910, and death followed before the end of the year.

103. **Successful Resection of Sarcoma of the Stomach.**—*Hesse's patient was a woman of 41 who had had no appetite* for years and showed signs of chlorosis and neurasthenia when she applied for relief from spasmodic pains in the region of the cardia, coming on from half an hour to an hour af eating and also *fasting*. Nothing was found to explain pains and they subsided *after* gastric lavage for a time returned during a pregnancy not long after and became m intense after delivery, radiating to the back and accompan by vomiting after nearly every meal. A new *examinat a year after the first, revealed a compact,* knobby tumor n the umbilicus, evidently not obstructing the pylorus, and proved to be a fibrosarcoma in the anterior wall of stomach, as large as a fist. *After* resection of two-thi *of the stomach all trouble* was at an end, and the patient is good condition to date, seven and a half years later, worki eleven hours a day in a laundry.

105. **Measles and Bronchopneumonia.**—Baginsky remar in the course of his general lecture that 7,612 persons h died from measles at *Berlin in the twenty* years before 19 a mortality of about 5 per cent., and certain epidemics ha a far higher mortality. He urges constant oversight of t ears with the speculum as the only means to detect *ear co plications in their incipiency;* local disinfection seldom do much good in measles otitis until after perforation wh suitable measures usually lead to a rapid cure. In case hi fever or symptoms of meningitis accompany *the otitis,* t membrane should be incised without delay. When diphther accompanies measles each disease should be managed as isolated. The special danger of this association is that t diphtheria is generally not recognized until far advance When diphtheria bacilli are *found* in the secretions, antitoxin should be given at once without waiting for symptoms. In conclusion he warns that children who have recently passed through measles are exceptionally susceptible *to* tuberculosis and hence should be guarded *with* special care against this infection.

106. **Local Treatment of Chronic Cough.**—Wolfram treats both acute and chronic tracheal and bronchial catarrh, and the cough with it, by direct *injection* into the trachea of

a warm disinfecting and astringent solution. He inserts Fränkel's laryngeal syringe with the aid of the laryngoscope and has been amazed at the tolerance of the trachea and bronchi. Insufflation of a powder is liable to induce spasmodic contraction of the larynx; but he has never observed this with the intratracheal injections. He injects two or three syringefuls, using weak boric acid, tannic acid, silver nitrate or other disinfectant solutions, and has found this by far the most effectual treatment for low-seated cough.

Wiener klinische Wochenschrift, Vienna

June 22, XXIV, No. 25, pp. 891-926

107 *Indirect Palpation of Liver and Stomach. (Das Beklopfen der Leber und des Magens und der Vibrationsdruck.) W. Jaworski.
108 The Secretion of the Prostate. (Ueber Prostatasekretion.) R. Fischel and K. Kreibich.
109 Advantages of Expectant Treatment of Retained Scraps of Fetal Membranes. (Zur Behandlung retinierter Eihautreste.) M. Steinsberg.
110 Recommendation of Moving Pictures to Teach Management of Electric Accidents. (Kinematographie im Dienste der Elektropathologie.) S. Jellinek.
111 Mechanism of Pulmonary Emphysema. (Zur Mechanik der Lungenblähung.) M. Sihle.

107. **Indirect Palpation of Liver and Stomach.**—Jaworski has found that striking the skin with the ulnar side of the hand in the interspaces parallel to the ribs is liable to cause pain in a deep-seated organ below if it is inflamed, even when there is nothing otherwise to suggest tenderness in the organ. Finger-finger percussion is also liable to elicit this internal pain. In a number of dubious cases the results of this indirect palpation first cleared up the diagnosis of cholelithiasis by confirming or excluding the presence of inflammation. Differentiation by this means has done valuable service in a number of cases suggesting both cholelithiasis and round ulcer, one or the other being excluded by the localization of the pain deep below the surface when this tapping or percussion was applied. The pains with downward displacement of the viscera also frequently simulate gall-stone colic or vice versa, and here the tapping pain is of decisive importance. Positive findings indicate active local irritation and consequently they may be transient, and gall-stones may be present without active inflammation. Tapping in this way is unable to differentiate trouble in the right kidney from gall-stone disturbances, but the diagnosis is generally cleared up when the percussion is applied from the rear. When there is doubt whether the pain is purely nervous, he applies vibration to the percussing hand, inducing a kind of vibration massage, which is liable to have a beneficial effect in purely nervous troubles, while in a case of actual ulcer or gall-stone mischief, the pain is aggravated by the vibrations. Jaworski relates the details of a number of typical cases to illustrate the various points he emphasizes.

Zeitschrift für Kinderheilkunde, Berlin

II, Nos. 2-4, pp. 123-346. Last indexed July 1, p. 56

112 *Attenuation of Scarlet Fever by Prophylactic Serotherapy. (Abschwächung des Scharlachs durch prophylaktische Seruminjektionen.) E. Benjamin and O. Witzinger.
113 Hydrocephalus in Infants After Hemorrhage in Dura. W. Fischer.
114 Roentgen-Ray Stomach Findings in Infants and Young Children. (Ergebnisse von Magenuntersuchungen mittels Röntgenstrahlen im Säuglings- und späteren Kindesalter.) H. Flesch and I. Peteri.
115 Anthracosis of the Lungs Result of Inhalation. L. Findlay.
116 Comparative Development of Nurslings in Same Family. (Ueber schlechte Entwicklung von Geschwistern während der Stillung.) G. Tugendreich.
117 Obese Children and the Exudative Diathesis. (Adipositas und exudative Diathese.) H. Pisel.

No. 5, pp. 347-436

118 Physical Properties of Infants' Blood. II. (Der osmotische Druck des Blutes des Säuglings.) B. Salge.
119 Clinical and Metabolic Research on Action of Sodium, Potassium and Calcium Salts on Infants. (Wirkung verschiedener Salze beim Säuglinge.) L. F. Meyer and S. Cohn.
120 Chemistry of Infant's Stomach. (Zum Chemismus des Säuglingsmagens.) H. Davidsohn.
121 Central Origin of Salt Fever in Infants and Older Children. (Zum Kochsalzfieber.) S. Cobliner.

112. **Favorable Effect on Scarlet Fever of Prophylactic Serotherapy.**—The long article by Benjamin and Witzinger relates their experiences with scarlet fever developing in children who had been given one or more injections of diphtheria antitoxin on entering a contagious disease ward—a total of 138 cases of scarlet fever following diphtheria, measles or varicella, in the course of fifteen years in two cities. That the serotherapy had an attenuating influence on the scarlet fever they think is beyond question. Among the other data cited to sustain this view is that the fever lasted only one day in 76.2 per cent of the cases, two days in 4.8 per cent. and over three days in 19 per cent. in the serum-treated cases after uncomplicated diphtheria, while in the control, untreated cases of primary scarlet fever, these figures were respectively 8.5, 16.4 and 75 per cent. Still more conclusive testimony is afforded by the exceptionally mild course of the scarlet fever in a child given a prophylactic injection of antitoxin at home after a brother or sister had developed scarlet fever. Only one child in each of the seventy families was given the antitoxin, and in this child the disease developed in such a mild form that the diagnosis was only retrospectively positive when desquamation set in, while the other children developed a serious form of the disease. This phase of the research was hampered by the fact that in the prevailing epidemics there was contagion of other members of the family only in about 10 per cent. of the cases an unusually small proportion. A number of questions bearing on the influence of antitoxin on scarlet fever are discussed and the facts emphasized that whereas in former years the mortality was extremely high in scarlet fever following diphtheria, under serotherapy the superposed scarlet fever did not prove a dangerous complication in the experiences related. In conclusion Benjamin and Witzinger suggest the advisability of a prophylactic injection of antitoxin as early as possible when the first case in the family is unusually severe and isolation is impracticable for any reason. Unfortunately, they add, the duration of the efficiency of the serum is limited and individually variable. It may be possible to prolong this period of efficiency by injection of serums of different origins. Their research did not include the question whether complications were rarer and milder than under other conditions. They append summaries of all their cases of *scarlatina mitigata*, the work filling 128 pages.

Zentralblatt für Chirurgie, Leipsic

June 22, XXXVIII, No. 25, pp. 857-888

122 *Cosmetic Technic for Treatment of Complicated Harelip. (Rückverlagerung des prominenten Zwischenkiefers bei komplizierten Hasenscharten ohne Einziehung der Nasenspitze.) A. Reich.

122. **Operation for Harelip.**—Reich gives an illustrated description of a method for correcting harelip without disfiguring the profile of the nose when the upper jaw protrudes. The main point in the technic is an osteotomy of the nasal septum, utilizing the part containing the groove at the median line of the upper lip to form a new septum, before proceeding to the usual osteotomy on the vomer.

Zentralblatt für Gynäkologie, Leipsic

June 24, XXXV, No. 25, pp. 889-920

123 *Tincture of Iodin Sterilization in Obstetrics. H. H. Schmid.
124 *Pregnancy with Double Uterus. R. Klages.

123. **Tincture of Iodin in Obstetrical Sterilization.**—Schmid states that the tincture of iodin method is used currently at the Prague maternity as a preliminary to all obstetric maneuvers, and that it has fulfilled all expectations. After the vulva and vicinity have been wiped dry the tincture of iodin is applied from the pubis to beyond the anus and past the tuberosities of the ischium on each side. If the women were not under the influence of an anesthetic they complained of smarting wherever the tincture touched the mucosa, but this smarting lasted less than a minute.

124. **Pregnancy in a Double Uterus.**—Klages opened the abdomen of a woman on suspicion of extra-uterine pregnancy causing trouble, and found that the four-months' fetus was in the right half of a double uterus with a single cervix. The woman had passed through four apparently normal pregnancies and deliveries previously. The existing pregnancy did not seem to be molested by the laparotomy, and is progressing to term, the operation having been followed by retrogression of the symptoms for which it had been done.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 15, XXXII, No. 72, pp. 763-770.

125 *Pure Mitral Stenosis and Tuberculosis. V. Fusco.

June 18, No. 73, pp. 771-786

126 *Improved Technic for Determination of Spirochete of Syphilis. (Un semplice artifizio di tecnica applicabile all' ultramicroscopio *per ricerche biologiche e terapeutiche* sulla spirocheta pallida.) F. de Napoli.

125. **Pure Mitral Stenosis and Tuberculosis.**—Fusco regards pure mitral stenosis as the result of defective development, and thinks that tuberculosis should be incriminated. In a case described in detail the mitral stenosis developed at puberty in a girl with an inherited tuberculous taint and the phthisical habitus, although apparently healthy.

126. **Improved Technic for Examining Spirochetes.**—Napoli has found that work with the ultramicroscope is much facilitated by placing a few drops of salt solution or distilled water on the sides of the slide holding the specimen under examination. This starts osmotic currents which show up the specimens much better. By adding a chemical to the water it is possible to study its microbicidal action on the spirochetes in the microscopic field. He has thus obtained interesting results with salvarsan and other substances that act on these germs.

Riforma Medica, Naples

June 19, XXVII, No. 25, pp 673-700

127 Multiple Tuberculous Joint and Tendon Lesions. (Sinovite articolare e tendinea tubercolare multipla.) A. d'Antona.

128 *Vertebral and Paravertebral Hepatic Dulness on the Left Side. (*Su di un'aia di ottusita vertebrale e paravertebrale* sinistra alla base del torace.) L. Ferrannini.

128. **Vertebral and Paravertebral Hepatic Dulness on the Left Side.**—Grocco here gives further details in regard to this sign, with nine illustrations showing the exact localization and the interpretation of the area of dulness. (His previous communication was summarized in The Journal, March 4, page 707.)

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. *Selections will be made for review in the interests of our readers and as space permits*

Scientific Memoirs by Officers of the Medical and Sanitary Department of the Government of India. The Preparation of a Safe and Efficient Antirabic Vaccine By Lieut.-Colonel Sir D. Semple, Kt., M.D., D.P.H., R.A.M.C. (Retired), Director, Central Research Institute, Kasauli. New Series, No. 43. Paper. Price, 9 pence. Pp. 32.

The Relation of Tetanus to the Hypodermic or Intramuscular Injection of Quinin. By Lieut.-Colonel Sir D. Semple, Kt., M.D., Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Department of the Government of India. New Series, No. 44. Paper. Price, 1 shilling 2 pence. Pp. 61.

Lehrbuch der Augenheilkunde in der Form klinischer Besprechungen. Von Dr. Paul Römer, o.ö. Professor der Augenheilkunde, Direktor der Universitäts-Augenklinik zu Greifswald. Paper. Price, 22 marks. Pp. 1,028, with 209 illustrations. Berlin: Urban & Schwarzenberg (New York: Rebman Company), 1911.

Kursus der normalen Histologie. Ein Leitfaden für den praktischen Unterricht in der Histologie und mikroskopischen Anatomie. Von Rudolf Krause, a.o. Professor der Anatomie an der Universität Berlin. Paper. Price, 22.50 marks. Pp. 441. Berlin: Urban & Schwarzenberg (New York: Rebman Company), 1911.

Hautkrankheiten sexuellen Ursprungs bei Frauen. Von Dr. Oskar Scheuer, Facharzt für Haut- und Geschlechtskrankheiten in Wien. Paper. Price, 9.50 marks. Pp. 204. Berlin: Urban & Schwarzenberg (New York: Rebman Company), 1911.

The Human Atmosphere, or the Aura Made Visible by the Aid of Chemical Screens. By Walter J. Kilner, B.A., M.B. Cantab. Cloth. Price, with screens, $9. Pp. 329, with 28 illustrations. New York: Rebman Company, 1911.

The Medical Register. Printed and Published Under the Direction of the General Council of Medical Education and Registration of the United Kingdom. Cloth. Pp. 1,784. London: Spottiswoode & Co., Ltd., 1911.

Twenty-Fourth Annual Report of the Board of Managers of the St. Lawrence State Hospital, Ogdensburg, N. Y., to the State Commission in Lunacy for the Year Ending Sept. 30, 1910. Paper. Pp. 38.

Thoughts of a Catholic Anatomist. By Thomas Dwight, M.D., LL.D., Parkman Professor of Anatomy at Harvard. Cloth. Price, $1 net. Pp. 243. New York: Longmans, Green & Co., 1911.

Actas y Trabajos del Segundo Congreso Médico Nacional, Habana, Febrero 24-28, 1911. Leather. Pp. 504. Dr. Mario G. Lebredo.

Twenty-First Biennial Report of the Managing Officer of the Elgin State Hospital at Elgin, Ill. July 1, 1910. Paper. Pp. 72.

Sixth Annual Report of the American National Red Cross, Covering the Period from Jan. 1 to Dec. 1, 1910. Paper. Pp. 168.

Studies in Typhoid Fever. By the Washington State Board of Health During 1909-1910. Pp. 110.

New Patents

Recent Patents of Interest to Physicians

976550. Surgical binder. Rebecca V. Coddington, Gallup, N. Mex.
976266. Fumigator. Joseph C. Kemball, Arden, Wash.
976812. Mouth speculum. John F. Koehler, West Hammond, Ill.
976665. Apparatus for impregnating liquids with coagulants. John W. Ledoux, Swarthmore, Pa.
976200. Vibratory apparatus for ear treatment. Eugene Meyer, New York.
976699. Mechanism for grinding or mixing emulsions. Wilhelm G. Schroder, Lubeck, Germany.
976307. Hydraulic invalid lifter. Thomas M. Smith, Baltimore.
976423. Massage machine. Edward E. Ziegler, Philadelphia.
977154. Window tent. John G. Allen, Peoria, Ill.
976993. Massage vibrator. Axel E. Ellis, Quincy, Mass.
976862. Medical eye cup. Jason S. Fox, Honolulu, H. T.
977383. Cord for surgical ligatures and other purposes. Paul H. J.-P. M. C. de Gery, Nantes, France.
977312. Fumigator. Otto Immermann, Halle-on-the-Saale, Germany.
977098. Truss. John W. Kayser, Madison, Wis.
976883. Combined abdominal supporter and catamenial sack. Rudolph H. Keagy and M. L., Canton, Ohio.
977029. Pasteurizer. William J. McKee, Detroit, Mich.
977243. Invalid lifting apparatus. Garrett White, Chapel Hill, Tenn.
977353. Disinfector and deodorizer. Joseph W. H. and E. R. Williams, Sharpsburg, Pa.
977583. Physician's tablet holder. Harber C. Beardsley, Lakewood, Ohio.
977952. Surgical syringe. Adolf Heilmann and B. Tauss, Leipsic, Germany.
978031. Massage machine. Arthur A. Kent, Philadelphia.
977635. Medicated article. Arthur B. Klein, Covington, Ky.
977825. Surgical instrument. George N. Murphy, Paducah, Ky.
977968. Siphon. Louis Riebe, Summithill, Pa.
977842. Magnetic specimen holder for microscopes. Albert Sauveur, Cambridge, Mass.
977974. Artificial limb. William E. Showalter, Harrisonburg, Va.
977489. Speculum. Victor von Unruh, New York.
978534. Hand rubber. Morris Angert, New York.
978708. Surgical device for expanding collapsed lungs. John S. Dean, Wheatland, Iowa.
978142. Disinfecting compound. Wilhelm Dreyfus, New York.
978728. Apparatus for the administration of general anesthetics. Carroll H. Frink, Jacksonville, Fla.
978760. Surgical table. Solon M. Langworthy, Cedar Rapids, Iowa.
978313. Pump for medicating air. James A. Lee, Bellsville, Ohio.
978331. Litter carrier. Gustav A. Olson, Albert Lea, Minn.
978332. Litter carrier. Gustav A. Olson, Albert Lea, Minn.
978200. Disinfecting lamp or candle. Walter L. Plumb, Glen Ridge, N. J.
978488. Hypodermic syringe and cartridge therefor. Alfred Roesch, New York.
978540. Litter carrier. Fred and A. Strand, Dennison, Minn.
978794. Bandage. Greenleaf S. Van Gorder, Pike, N. Y.
979247. Oxidizing borneol to camphor. Geza Austerweil, Neuilly, near Paris, France.
978985. Syringe Jesse R. Burdick and R. T. Fultion, Boulder, Colo.
979260. Invalid and like bed. Horace S. Collier, London, England
978988. Medicine dose dropper. Malcolm Cunningham, Savannah, Ga.
979386. Disinfector. Theodor Druzbach, Hoboken, N. J.
979147. Articulated mounting for bones of a body. Harrison H. Fryette, Chicago.
979005. Sanitary receptacle. Frank L. Hoffman, Denison, Iowa.
979329. Appliance for removing corns. Otto P. Muller, New York.
978940. Metallic bed pan. David Saks, New York.
979395. Pile remedy. Michael Straub, San Francisco.
979362. Apparatus for making extracts. Wilhelm Wiegand, Merseburg, Germany.
981628. Medical radiator for use in beds. Carlo Ferrari and C. Gallo, Turin, Italy.
982211 Sputum cup. Charles L. Knudsen, New York.
981256. X-ray apparatus. William S. Fullerton, St. Paul, Minn.
981690. Artificial foot. Harry W. Karn, Pittsburg, Pa.
981102. Electrolytic device for generating pure oxygen and hydrogen. Rene Moritz, Wasquehal, France.
981103. Apparatus for making sulfuric acid. Rene Moritz, Wasquehal, France.
980996. Device for generating and administering oxygen. David E. Parker, Niagara Falls, N. Y.
980756. Device for charging capsules. Domingo Brescia, Quito, Ecuador.
980896. Ophthalmometer and certain other sight-testing instruments. Egbert and C. S. Gowlland, Croydon, England.
980292. Food for diabetics. Eduard Lampe, Frankfort-on-the-Main, Germany.
980319. Take-up for flexible suspensories. John W. Milam, Frankfort, Ky.
980457. Artificial limb. Justin K. Toles, Stockton, Cal.
979416. Menthylated oil of wintergreen. Gustav Blieberger, New York.
979505. Surgical instrument. Henry Johnson, Woodford, Wis.
979959. Combined crutch and chair. Samuel J. Johnson, Fort Worth, Texas.

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SOME AMERICAN MEDICAL BOTANISTS *

HOWARD A. KELLY, M.D.
BALTIMORE

One of the first reuniting links between England and the Pilgrim Fathers was a floral one. Confronted at the outset with epidemics incidental to acclimatization and poor sanitation, the few doctors in America eagerly scanned the ponderous herbals they had brought over and searched the country in hopes of finding the well-known febrifuges and other remedies they had used in the old country. Ship's captains were given letters to friends asking for plants and seeds required, but these, too, received after interminable delays, had to become acclimatized. In searching for remedies many new and wonderful plants were discovered and sent as specimens or exchanges to the great European botanists, arousing their eager interest in the new country and a great desire to have such plants in the botanic gardens then flourishing.

Boerhaave at Leyden was in the habit of making large exchanges, and Dr. Fothergill, who sent us the anatomic pictures for the University of Pennsylvania, now in the museum of the Pennsylvania Hospital, had 4,000 plants in his botanical garden near London. Dr. John Mitchell, who came over to Virginia in 1700, sent plants to Linnæus and to Bartram, and in 1763 refers to the white double daffodil brought over by the first settlers. American oaks planted centuries ago still flourish in England, while wistaria and "Virginia creeper" still climb over the walls of hundreds of houses in foggy London. Sponsorial compliments abounded in floral godchildren such as the *Mitchella, Gardenia* and *Bigelowia*, which were as tenderly reared in Europe as were the *Boerhaavia, Meadia* and *Lettsomia* in America. There were anxious periods of waiting; for a voyage of seventy days or more wrought havoc with plants, insects and reptiles. Even war did not upset botanical sympathies and the published correspondence in times of warfare and Indian raid shows chiefly anxiety lest, a ship being captured by the enemy, seeds and plants should be thrown overboard. Michaux, the great botanist, speaks of the French Revolution (1789) merely as a hindrance to his gathering specimens from abroad. John Bartram, in 1763, laments that a government scheme of exploring Louisiana cannot be carried out because the scientists would be exposed to "the greatest savage cruelty of the gun, tomahawk and torture" by the Indians. He did venture once with a guide, but says, "An Indian met me and pulled off my hat in a great passion and chawed it all around to shew me how he would eat me if I came again."

Of the young British doctors who came over here, John Mitchell was the earliest. This botanist, the date of whose birth is uncertain, as there were several scholarly John Mitchells of that time, was born, educated and took his M.D. in England. He came to America about 1700 and lived in Virginia at Urbana on the Rappahannock. The climate and people must have pleased him for he stayed about forty-seven years, interested in everything scientific, especially in botany, making long excursions to gather plants. He wrote also on electricity, yellow fever and politics, and published a map of the British and French dominions in America which is said to "mark an era in the geography of North America." Like most doctors and scientists of that time, he kept his interests wide by corresponding with European *confrères*, especially with Linnæus, who named the partridge vine or checkerberry after him (*Mitchella repens*).

Mitchell returned to London about 1747 and became an F. R. S., the fruits of his literary solitude in America being given to the Royal Society in several addresses, among them one on "The Preparation and Use of Various Kinds of Potash," and one on "The Force of Electrical Cohesion." His biographers simply state that "he died in March, 1768." Where he was buried, no one knows and few even know that he is immortalized in the sweet, lowly little *Mitchella repens*.

Like Mitchell, John Clayton was born and educated in England and came over to America to join his father, the Governor-General of Virginia, about five years after Mitchell came here. He had, too, a similar compliment from Linnæus in having one of our most delicate, graceful, much-loved little flowers, the spring beauty, called after him *Claytonia virginica*.

Whether Clayton was a graduate physician or not, he practiced as one, but it is only as a botanist that any record of his work survives. He kept a noted botanical garden and published a work of two volumes on botany, and made a collection of dried plants, a "Hortus Siccus," of folio size, with marginal notes and directions to the engraver in preparing the plates for the proposed work. These were left in the charge of the county clerk of New Kent and were unfortunately burned, together with the county records at the beginning of the Revolution.

Numerous articles descriptive of the plants he discovered were published in the *Philosophical Transactions of the Royal Society of London*. Several of these treated of medicinal plants, others of the species of tobacco and their cultivation. His chief work was his "Flora Virginica," editions of which were issued from the press at Leyden in 1739, 1743 and 1782, which is referred to by all writers on North American plants.

When over 70 he made a botanical exploring tour of Orange County, Virginia, then largely a wilderness.

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* The substance of an Address before the Medical-Historical Society of Chicago, 1910. The article is here somewhat abbreviated, for reasons of space, but it appears in full in the author's reprints.

This old naturalist was a pious member of the Church of England. It was impossible, he declared, that a botanist could be an atheist, seeing, as he did, the infinite wisdom and skill displayed in the smallest plant. A scientist of world-wide reputation and a citizen of sterling integrity, after a long and useful life, he passed away Dec. 15, 1773.

The third link in the botanic chain was another young doctor from Britain, "a truly great philosopher and a very great and ingenious botanist," who came to be lieutenant-governor of New York. He was the son of the Rev. Alexander Colden, minister in Dunse, Scotland, and was born Feb. 17, 1688; he was educated at and took his M.D. from Edinburgh University. Attracted by the fame of William Penn's colony, he came over to America and practiced in Pennsylvania for seven years, and then returned to England.

From London he made a short visit to Scotland, long enough, however, to get him a wife, Miss Christie; then he returned to Pennsylvania and became a public character, holding in succession the offices of surveyor-general, master in chancery and lieutenant-governor.

The Linnæan system was introduced by Colden into America only a few months after its publication in Europe. To the author himself Colden sent a description of some three or four hundred American plants and Linnæus gracefully acknowledged the gift by publishing the record in his "Acta Upsaliensa," and by giving the name *Coldenia* to a genus of boraginaceous herbs of the tribe *Ehretieæ*, though a prettier version is that Miss Jane Colden sent him a specimen and he named it after her, a compliment he was fond of paying ladies.

Colden made up his mind in 1775 that the stamped paper made necessary by Grenville's Stamp Act should be used, but the official distributor of stamps refused to receive it, so Colden, sympathizing with the English, went off to Fort George with a garrison of marines. When the New York populace protested, he ordered the marines to fire. They would not, and the people seized Colden's carriages and burnt them along with effigies of Colden and the devil. The following year brought the Declaration of Independence, but Colden had already retired to a large grant of land called Coldenham, near Newburgh, where he wholly gave himself to science, especially to botany and mathematics. Here he wrote, in 1774, his "Plantæ Coldenhamæ," the earliest treatise on the botany of New York. His home was a rendezvous for all learned men; his greatest pleasure was to receive them there. On Sept. 28, 1776, he died, leaving a son distinguished as a mathematician and a philosopher.

Two of our greatest pioneer botanists, John Bartram and Humphrey Marshall, of North England stock, were not physicians. They had settled in Pennsylvania and were most enthusiastic, genial friends with all the European botanists and intimate with our own men, Colden among them.

It is Humphrey Marshall's son, Moses, a physician, who next claims our attention. The fame of this expert medical botanist has been somewhat eclipsed by that of his uncle Humphrey, of whom Darlington left studious and loving record in his "Memorials of Bartram and Marshall," but Moses made several long exploring journeys through the wilds of the West and rendered valuable assistance to his uncle in preparing the "Arbustum Americanum."

He was the son, as I have said, of James and Sarah Marshall, and the grandson of Abram Marshall, who came to Delaware in 1697 from Gratton, Derbyshire, England. He studied medicine under Dr. Nicholas Way of Wilmington, but never held a medical degree, none being required at that time for practicing in Pennsylvania; but, as it was customary to attend a course of lectures, he went to those by Shippen and Rush in Philadelphia.

Then followed a year or two employed in desultory medical work, including inoculations round about Londongrove, Pennsylvania, and in keeping an apothecary's shop "which came to nothing and less." The truth was that he had not found his true vocation—botanizing. His uncle writes to Franklin in 1785, and Moses himself to Dr. Lettsom in London, suggesting a government-supported exploration of the Western States. In 1786, Sir Joseph Banks wrote to Humphrey Marshall asking for one hundredweight of fresh ginseng roots. Moses spent twenty days in the Alleghanies getting these and charged Lettsom $1.25 a pound. Lettsom and he seem to have carried on a brisk correspondence, especially concerning the *Talinum teretifolium*, hitherto undescribed by botanists. He sends Lettsom three tortoises and some plants, one of which, a polygala, is thus mentioned in a letter.

> "Should this prove to be a new genus, I have designed the appellation of *Lettsomia*, with this provision, that it might not be unpleasing to thee, and that in the interim I should not be able to discover a plant more exalted, conspicuous and worthy."

He also asks for "a surgeon's pouch of instruments" to be sent him, and Lettsom hastens to acknowledge the compliment of a floral godchild and encloses 10 pounds in case Moses should be out of pocket for seeds asked for. A plant was also named *Marshallia* after Moses, which many authorities have claimed for his uncle. Two letters of 1792 have recently come to light which settle the question.

Marshall's letters speak of many long trips which meant fatigue, danger and expense. His appointment as justice of the peace curtailed excursions, but he continued exchanging specimens and seeds with European confrères. About 1797 he married Alice Pennock and had six children. After his uncle's death, there is not much told of his scientific work, and he died Oct. 13, 1813, leaving behind a friend whom I now introduce:

Alexander Garden was the greatest friend of Marshall Senior. He had followed in the wake of many English doctors and scientists eager to drink in all that London and Edinburgh and European doctors could teach them.

Travel fever had laid strong hold in 1750 on this Scotch lad in Aberdeen, who was destined to be a botanist in America. Born about 1728, a son of the Rev. Alexander Garden of Aberdeen, he not only came to the United States but stayed thirty years, yet not one in a thousand, either here or in England, knows after whom the genus *Gardenia* was named.

His medical education was obtained with the celebrated Dr. John Gregory in Edinburgh and at Aberdeen University. He arrived in South Carolina about 1750 and settled down to practice with a Dr. Rose in Prince William parish. At once he started on his favorite study of botany, but ill health compelled a voyage northward and he was offered, but declined, a professorship in the New York Medical College. Returning to Charleston, he began a successful practice. An odd little glimpse of his life at this time is given in a letter to John Bartram, the botanist:

> Think that I am here, confined to the sandy streets of Charleston, where the ox, where the ass, and where men as

stupid as either fill up the vacant space while *you* range the green fields of Florida.

The study of zoölogy, especially fishes and reptiles, filled up the leisure left from a large practice and botanizing, and he kept up an active correspondence also with Linnæus. It was John Ellis, the botanist, who named the beautiful Cape jessamine *Gardenia* in his honor.

About 1772 Garden was made a Fellow of the Royal Society of London and eventually its vice-president. Eager to extend his knowledge, in 1755 he accompanied James Glen, governor of South Carolina, when the latter penetrated the Indian country and formed a treaty with the Cherokees.

He introduced into medical use the *Spigelia marilandica* or Maryland pinkroot, as a vermifuge. Anyone who would like to know more of Garden's travels and pretty, reverent letters about Nature should get the "Linnæan Correspondence," edited by Sir J. E. Smith, London, 1821.

Tuberculosis, hitherto successfully fought, began to tell on Garden's health in 1783, although it was hoped, in vain, that "revisiting the haunts of his youth and the pleasing recollections of juvenile scenes would have salutary influence in arresting the disease. The good time every learned man tried to give him as guest during his progress homeward and while traveling in Europe exhausted his strength. He stayed with his wife and two daughters in Cecil Street, off the Strand, London, a narrow street up which to-day as then creep fog and mists from the river; a bad exchange for Carolina sunshine. There, patiently realizing that nothing could be done, he put on paper all he could of his Carolina work, enjoyed the men who flocked to him and got ready for his last long journey. He died peacefully in London, 1792.

Meanwhile, botanists were increasing in number in the States, in Pennsylvania especially, which gave us our next worthy, Adam Kuhn.

Kuhn was born at Germantown, near Philadelphia, Nov. 17, 1741. His grandfather, John Christopher Kuhn, and his father, Dr. Adam Simon Kuhn, came from Heilbronn, Swabia, to Philadelphia in September, 1733. Adam first studied medicine with his father, then sailed for Europe in 1761 and arrived at Upsal by way of London.

Linnæus, following a pretty fancy, named an American plant Kuhnia (*Kuhnia eupatorioides*), after his pupil, and when the latter returned to Philadelphia wrote very intimate and graceful letters to him in Latin. One has this injunction in it: "I pray and entreat send me some seeds and plants, among which I ardently desire the seeds of the *Kuhnia,* which perished in our garden."

Kuhn went to London in 1764 and studied there awhile, and in 1767 was in Edinburgh, where he took his M.D. the same year. His thesis on "De Lavatione Frigida," or the use of cold bathing in fevers, was dedicated to his friend Linnæus. He visited France, Holland and Germany, but whether before or after Edinburgh is not clear. In 1768, after his return to Philadelphia, he became professor of materia medica and botany in the University of Philadelphia, being the first professor of the latter science in America.

He did not marry until he was 39; "he had two sons, respectable characters," by his wife, Elizabeth, daughter of Isaac Hartman of St. Croix.

When 73 he "grieved" his patients by giving up practice, and in June, 1817, began to feel conscious that life was ending. After a short confinement of three weeks to the house, but suffering no pain, Adam Kuhn passed away on July 5, 1817, in full serenity of mind and heart, leaving behind him a friend and fellow-worker in natural science named Caspar Wistar.

Wistaria, the beautiful flowering vine, is known, of course, to all: "Wistar parties" to most of us, so it comes to pass that the memory of one of our great surgeons is conserved in two emblems of festivity rather than, as he perhaps imagined, in his original observation and "Description of the Posterior Portion of the Ethmoid Bone with the Triangular Bones Attached." (Thacher.)

His grandfather, Caspar Wistar, a German, came to Philadelphia in 1717, and Dr. Wistar was born there in 1761. He had the advantage as a medical student of sitting under Morgan, Shippen, Rush and Kuhn, after which, like most men of his day, he went to Europe, taking his M.D. at Edinburgh University. His inaugural thesis, "De Animo Demisso," was dedicated to Franklin and Cullen. He studied under Cullen and, rare honor for a youthful stranger, was twice president of the Royal Medical Society of Edinburgh.

On his return to Philadelphia after three years, he was associated with Dr. John Jones, author of the first work on surgery which appeared in America, who was delighted with Wistar's surgical skill. Wistar became professor of chemistry and physiology in the College of Philadelphia, and held other appointments, among them the adjunct professorship of anatomy and surgery with William Shippen. He wrote "A System of Anatomy" for his students, and spared no pains in securing models for his class. His memory has been perpetuated in the Wistar Institute of Anatomy and Biology in West Philadelphia. The work of the Historical and Literary Committee of the American Philosophical Society aroused his keenest interest and he did much to stimulate the society to collect the fleeting materials of American history. He kept up a delightful correspondence with Correa da Serra, the botanist who named the wistaria and was a frequent guest at Wistar's house. Wistar also kept in touch with Humboldt, Soemmering, Camper, Michaux, Marshall and various English scientists.

His biographers tell us that soon after his return "he was united in matrimony" with Isabella Marshall, but she died childless. Eight years later he married Elizabeth Mifflin, who made him happy with two sons and a daughter. He was a Quaker and a religious man, and brought up his children to revere God's word, of which he carried a cherished copy given him by Dr. Charles Stuart of Edinburg. He often took his children out in the carriage with him to talk of the teachings of the Bible.

Troubled for many years with an organic affection of the heart, he died comparatively young, on Jan. 18, 1818, working almost to the last.

Among Wistar's college friends was the handsome Benjamin Barton, destined to become one of America's foremost botanists. He was the son of the Rev. Thomas Barton, an Episcopal minister, and was born Feb. 10, 1776, in Lancaster, Pa. He was but 8 when his mother died and but 14 when left an orphan. He went to live with an elder brother and studied at the College of Philadelphia, beginning to study medicine under Dr. William Shippen, Jr. While still Shippen's pupil, young Barton journeyed with his maternal uncle, David Rittenhouse, and the other commissioners appointed to survey the western boundary of Pennsylvania, and thus had his attention directed to the study of the Indian tribes, a subject which possessed the greatest interest for him throughout life. In 1786, he went abroad to pursue his medical and scientific studies, first in Edinburgh and London, afterward going to Göttingen, where he received his medical degree.

His reasons for not taking the degree of M.D. to which he was entitled by his studies at Edinburgh University were set forth in a letter to his brother, written in London, 1789, in which he states that he preferred getting his diploma from Göttingen because he was dissatisfied with the discourteous manner in which two of the professors at the University of Edinburgh treated him.

While living in London, he published a tract entitled "Observations on Some Parts of Natural History, to Which is Prefixed an Account of Some Considerable Vestiges of an Ancient Date Which Have Been Discovered in Different Parts of North America." This little book he afterwards characterized as a "premature work" and regretted its many deficiencies.

Dr. Barton returned to Philadelphia and practiced medicine in 1789, in the same year being appointed professor of natural history and botany in the College of Philadelphia, a position he held after the union of the College of Philadelphia with the University of the State of Pennsylvania in 1791.

On the resignation of Dr. Griffith from the chair of materia medica in Pennsylvania, Dr. Barton was appointed. When Benjamin Rush died, Barton was appointed professor of the theory and practice of medicine, and continued to hold also the chair of natural history.

His published works include "The Elements of Zoölogy and Botany," or "Outlines of the Natural History of Vegetables"; "Collections for an Essay toward the Materia Medica of the United States"; "Fragments of the Natural History of Pennsylvania"; "Essay on the Fascinating Power Ascribed to Serpents, etc."; "Views of the Origin of the Tribes and Nations of America."

In 1805 he started publishing the "Medical and Physical Journal" and also wrote many short articles on topics connected with medicine and history and archeology, much of his work appearing in the *Transactions of the American Philosophical Society*.

During his early years he was greatly afflicted with hemorrhage and gout. He had given only two courses as the successor of Rush when he had to seek relief by a sea voyage. He sailed to France in 1815, returning disheartened by way of England. At New York he was afflicted with hydrothorax. Finally, reaching home very ill, he became rapidly worse and was found dead in bed on the morning of Dec. 19, 1815. Feverishly anxious to work, three days before his death he wrote a paper concerning a genus of plants named in his honor by Nuttall, a young English botanist whom Barton had financed for a scientific tour in the southern states. The plants were of the class *Icosandria monogynia* (Linnæan system) found in hilly districts between the Platte and the Andes and named *Bartonia polypetala* and *Bartonia superba*.

William Darlington was another of the famous group of scientists exploring, writing and keeping up a keen scientific correspondence with each other.

The seeming hardship of having to work on a farm and lead an outdoor life may have stimulated William Darlington's botanical interests. His great grandfather, Abraham Darlington, had come over from England to Pennsylvania when a young man and settled near Chester. William had simply a common-school education and, hungry for more, persuaded his father to let him study medicine with Dr. John Vaughan of Wilmington, Delaware. He took also private French lessons, studied hard at Latin, Spanish and German, and received his M.D. from the University of Pennsylvania in 1804.

A voyage to India as ship's surgeon gave him leisure for study and reflection. The following year he settled down to practice in West Chester after marrying Catherine, daughter of General John Lacey of New Jersey.

In the midst of much civic business, he finds time to botanize, also to found the Chester County Cabinet of Natural Science and to publish his first botanical work: "Florula Cestrica, or Catalogue of Plants Growing Round West Chester, Pennsylvania."

That which pleased him most was the perpetuation of his name in flower form. Professor de Candolle of Geneva named a genus after him, but it did not prove to be sufficiently distinct, and another friend, Professor Torrey of New York, dedicated to him a finer plant of the order *Saraceniaceæ* (pitcher-plants), which grow in California. Darlington certainly deserved the honor, for a more generous man never lived. This was shown in his gathering together all the letters and memoranda of Dr. William Baldwin, a zealous botanist who died still young while on a botanizing expedition up the Missouri. Darlington called the book "Reliquiæ Baldwinianæ" (1843), and six years later made all botanists his debtors by his loving work shown in "The Memorials of John Bartram and Humphrey Marshall" (1849), the careful footnotes alone constituting valuable references to the botanical lore of that period.

The loss of a soldier son from fever off the African coast and the death of his wife in 1845-6 broke his health, and in the spring of 1862 Darlington had a slight attack of paralysis, followed in 1863 by another, from which he died on Thursday, April 23, 1863, nearly 81 years old and with mind still unimpaired.

Massachusetts has the honor of giving us a great educational reformer, one of America's most learned botanists, Jacob Bigelow, closely associated with the leading scientists of the world. He was of New England ancestry, his people coming over about 1640 and settling in Watertown, Mass. Jacob was the son of Jacob Bigelow, a Congregational minister who married a daughter of Gershom Flagg.

Jacob the younger was born Feb. 27, 1787, and his childhood was passed in the country at farm work, with scanty schooling. Painfully his father managed to send him to Harvard, where he graduated in 1806, and in 1808 attended the medical lectures there as a pupil under Dr. John Gorham and taught in the Boston Latin School. Then he went to Philadelphia to attend the lectures of Rush, Wistar, Barton and Coxe and to receive the doctor's degree. To bring himself early before the professional public he took to writing and so secured the Boylston prize four successive years. So promising seemed his career that the elder James Jackson chose him as associate in practice. He was a born artist, craftsman and inventor. When occasion came for illustrating his "Medical Botany" with colored engravings and before modern photography and lithography were invented he devised a means of illustration which proved both practical and beautiful and furnished sixty plates and 6,000 colored engravings for this monumental and now rare work.

Botany was his great hobby and his "Florula Bostoniensis" was a simple, charming book, well known to our grandfathers. In 1815 he was appointed lecturer on materia medica and botany, and two years later when he was 30 his title was changed to professor. Then, too, it is pleasant to believe that Count Rumford left behind him in his native state a young disciple as first Rumford professor who fulfilled all his desires.

But the work which brought Bigelow into closest contact with European savants and gave him honor in his own country was the elaborate series published under the title "American Medical Botany," which was noted for its finish and beauty and avoidance of technical terms. In 1820, when 33, he was associated with Spaulding, Hewson, Ives and Butts in editing the United States Pharmacopeia. He followed up this labor by adding Bigelow's Sequel, a perspicuous commentary on current remedies.

Three years previously he had married Mary, daughter of Colonel William Scollay of Boston, and they had five children, one son, Harry, becoming a doctor.

Bigelow was still active in his declining years and became a most distinguished and approachable old-man oracle. He was blind nearly five years, and bedridden, but with mind undimmed at 92. "His religion, not for speech, discussion or profession, was that of a serious man living very near the realities of life!" Unforgotten to the end, though long inactive, he died January, 1879, and was buried in the beautiful Mount Auburn Cemetery which he himself had originated (Mumford).

Among the pupils who loved Caspar Wistar, and was ever a welcome guest at his house, was a Kentucky lad named Charles Short, son of Peyton Short, born in Surrey County, Virginia, in 1794.

I can touch now only on the botanical side of Short. He graduated from the University of Pennsylvania when 21 with a thesis on the "Medical Virtues of Juniperus Sabina," and turned his attention that same year to wooing and wedding his stepsister, Jane Churchill. The young couple traveled home to Kentucky in a spring cart, Short botanizing on the way, and the journey, whether owing to Jane or to the specimens, is described as "replete with interest." So also was the scene of his first settled practice, Hopkinsville, then a wild, romantic district where he gathered patients and plants, soon getting into touch with scientific men everywhere by exchanging specimens. This gave him reputation, and led eventually to an invitation, which he accepted, to become professor of natural medicine and medical botany in Transylvania University. Benjamin W. Dudley and Daniel Drake were his colleagues. Short's heart was thoroughly in his work and he stayed there until internal dissensions in 1837 made Short and Drake accept the same professorships in the University of Louisville, whence, in 1849, Short went away to Hayfield, his country home, five miles from the city, and for the last fourteen years of his life cultivated plants and friendships, wrote and read, took long journeys and made the finest herbarium in the country.

Among his most prominent writings were "Notices of Western Botany and Conchology," a paper published jointly by himself and Mr. H. Halbert Eaton (1830); "Instructions for the Gathering and Preservation of Plants in Herbaria"; a "Catalogue of the Plants of Kentucky"; "The Bibliographia Botanica" (1836); "Sketch of the Progress of Botany in Illinois" (1845). The name of Dr. Short is commemorated by a number of plants: the genus *Shortia, Vesicaria shortii, Phaca shortiana, Solidago shortii and Carex shortiana.*

Books, too, were a huge delight to Dr. Short. He gathered a fine library, about 3,000 books, one-fourth botanical, but left wall space for engravings of his literary heroes, Walter Scott and Fielding. Some—most, perhaps—of his books came from London. We hear of his rebinding with his own hands those which required it, which marks him as a real book-lover.

One grieves a little to learn that a curious debility and ennui came over him when he was 67; that the old interests failed to attract, and two years later pneumonia, following on typhoid, ended his life on March 7, 1863.

Among the other doctors—some not botanists—who have had plants named after them, are notably: Goodyear, William Baldwin, David Townsend, Douglas Houghton, William Douglass, Benjamin Franklin, James McBride, Peter Kalm, Nathaniel Chapman, Asa Gray, John Torrey, George Engelmann and Joseph Le Conte. Some of these I propose to include in a volume on "American Medical Botanists" I have in hand, and I shall be grateful for any names additional to my list or interesting facts concerning our botanical confrères.

1418 Eutaw Place.

END-RESULTS IN GALL-BLADDER SURGERY[*]

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Notwithstanding the enormous literature on the subject of gall-bladder surgery which has accumulated during recent years, there have, as yet, been only a few papers published which deal in a comprehensive manner with the final results obtained by operation.

All who have had any experience with gall-bladder surgery know that, on the whole, the end-results have been very satisfactory, but that they can be improved in the future admits of no doubt. Such improvement must come largely through careful study of the successes and failures of the past, and the investigation on which this paper is based was undertaken with the idea, that the knowledge so gained might enable us in the future to eliminate a certain proportion of the unsatisfactory late results.

This study has consisted of a review of the literature on the subject, together with a critical analysis of the end-results obtained in 350 operative cases.

For the material which forms the chief basis of this paper, I am indebted to my former chief, Dr. A. J. Ochsner, of Chicago, who has kindly placed at my disposal the large number of cases of gall-bladder disease in which he has operated at the Augustana Hospital. During the past year my assistant, Dr. Mason, and I have corresponded with 290 of Dr. Ochsner's patients and have been able to ascertain definitely the end-results of the operative treatment in this number.

In addition to Dr. Ochsner's, I have included sixty cases in which my associate, Dr. McMullen, and I have operated at the Ellis and Physicians' Hospitals, Schenectady, N. Y., making in all a total of 350 cases.

In the literature, I have been able to collect only the papers of Taite,[1] Kehr,[2] McWilliams[3] and Munroe,[4] which deal in anything like a comprehensive manner with the final results obtained by operation. A summary of the facts given by these writers is shown in Table 1, from which it is seen that the cures have ranged from 65 to 98 per cent., and that Kehr, who reports the largest series of cases, has had from 84 to 90 per cent. of cures.

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[*] Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Taite, L.: Edinburgh Med. Jour., 1889, xxxv, 305.

[2] Kehr, H.. München. med. Wchnschr., 1904, li, 602; 1908, clv, 2073.

[3] McWilliams, C. A.: New York Med. Jour., 1906, lxxxiii, 1109.

[4] Munroe, J. C.: Boston Med. and Surg. Jour., 1909, clx, 359.

In attempting to estimate the end-results obtained in gall-bladder patients, one encounters varying degrees of improvement in individual cases, so that it is often difficult to say whether a given patient has been really cured or not. In this study the estimates given by the patients themselves have been taken almost at their face value. Only those patients who, in answer to our questions, have stated that they were entirely cured of the trouble from which relief was sought, have been classified as cured. Those who really consider themselves as cured, but who have qualified the statement by mentioning any minor discomforts, which may have resulted either from the operation or from the former disease, have been classified as satisfactorily improved, the patients themselves being perfectly satisfied with the results of the operation. Patients still complaining of any symptoms referable to the biliary system, even though they consider themselves greatly benefited by the operation, have been classified as improved. All patients in whom the benefits derived from the operation have not been unquestionable, have been classified as no better.

For purpose of comparison, gall-bladder cases coming to operation may be conveniently divided into four chief groups as follows:

1. True gall-stone cases with the stones in the gall-bladder or ducts or both.
2. Cases of cholecystitis with symptoms of gall-bladder or duct disease and presenting at operation more or less definite pathologic changes in the gall-bladder or ducts, without the presence of stones.
3. Cases in which the symptoms are due to the traction on the gall-bladder or ducts by adhesions, the gall-bladder being otherwise apparently normal.
4. Malignant tumors involving the gall-bladder or ducts.

GALL-STONE CASES

Of the 350 patients whose cases are included in this analysis, gall-stones were found in 245, and of these, 194, or 79 per cent., report that they were entirely cured by the operation, and an additional fifteen, or 6 per cent., consider themselves as cured, although still suffering from minor discomforts. This gives 85 per cent. in whom the results are all that could reasonably be desired.

Twenty-one, or 9 per cent., are classified as improved, and fifteen, or 6 per cent., are doubtfully improved or no better than before operation. These gall-stone cases may be further classified into groups according to the position of the stones and the complicating lesions present at the time of operation, as shown in Table 2.

1. *Gall-Stones Confined to the Gall-Bladder Without Noteworthy Complicating Lesions in the Ducts or Other Organs.*—In this group there are 107 patients, of whom ninety-six, or 90 per cent., are completely cured, and five, or 4.6 per cent., satisfactorily improved, making in all 94.6 per cent. of satisfactory results. Of the six uncured patients, five are classified as improved and one as no better. Of the five improved patients, three state that they were entirely well for a period of three years following the operation, at the end of which time one developed jaundice, which was later apparently cured at Carlsbad, while two have had a recurrence of their old painful attacks. A fourth patient has developed a troublesome postoperative hernia, and the fifth has a persistent sinus which causes but little discomfort. The unimproved patient still suffers from attacks of pain.

When we take into consideration the almost ideal end-results obtained in this group, together with the fact that the operative mortality in these uncomplicated cases is almost nil, it is difficult for us to understand the position taken by Kehr, who believes that operative interference should be limited to cases of empyema and chronic duct obstruction.

2. *Stones in the Cystic Duct.*—Of the thirty-two patients in this group, twenty-nine, or 90 per cent., are cured, two improved patients still suffer from adhesion-like pains and the one unimproved suffers from pains radiating to the right shoulder.

Nine of the twenty-nine cured patients and the one unimproved in this group had cholecystectomies, while the remaining twenty-three had cholecystotomies.

TABLE 1.—SUMMARY OF REPORTED RESULTS

Surgeon	Date of Report	No. of Cases	Cured		Improved		Not Improved		*Stones Over-looked*		*Secondary Oper-ations*		*Post-operative Hernia*		*Persist-ent Fistula*		*Adhesion and Sympt*		*Stomach Dislo-cations*		Recurrence of Calculi	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Taite	1889	52	51	98	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	0	..
Kehr	1904	350	311	89	..	..	..	..	9	2.6	..	..	11	3	2	..	12	3.4	..	..	0	..
McWilliams *	1906	69	45	69	7	10	16	23	7	10	12	..	6	9	7	10	4	7	4	7	1	..
Kehr	1908	885	84	90	..	..	..	16	2–3	...	..	..	..	5	..	..	..	8.7	..	..	..	..
Munroe	1909	172	...	79	..	..	..	..	..	..	..	..	..	..	..	..	6	2.2	..	..	..	..
Ochsner-Stanton	1911	245	209	85	..	9	15	6	3	1	5	2	7	3	1	..	10	4.2	..	..	3	1

* Presbyterian Hospital.

TABLE 2.—END-RESULTS GALL-STONE CASES

Ochsner	196
McMullen and Stanton	49
Total	245

Pathological Diagnosis	Total No.	—Cured— No.	%	Satisfactorily Improved No.	%	Improved No.	%	No Better No.	%
All cases	245	194	79	15	6	21	9	15	6
Stones uncomplicated in *gall-bladder*	107	96	90	5	4.6	5	4.6	1	1
Stones in cystic duct	32	29	90	..	...	2	...	1	..
Stones in common duct	19	13	70	2	10	2	...	2	..
Stones with *cholecystitis*	27	23	85	2	7	1	...	1	..
Stones with empyema of gall-bladder	12	12	100	..	...	..	...	..	..
Stones with chronic pancreatitis	11	10	91	..	...	1	...	..	..
Stones with extensive adhesions	19	16	84	..	...	3	...	..	..
Stones with coincident pelvic operations	42	28	66	4	10	6	15	4	10
Stones with other miscellaneous operations	16	13	81	2	...	1	...	..	..
Stones with fistula into duodenum	1	1	..	..	...	..	...	..	..
Stones with gastric ulcer	3	2	..	..	...	..	...	1	..
Stones with carcinoma of stomach[1]	1	1	..	..	...	..	...	..	..
Stones with chronic medical complications	1	..	..	..	...	1	...	..	..
Stones overlooked	3	..	..	..	...	..	...	3	..
Cured by second operation	5	5	..	..	...	..	...	..	..

[1] Anatomical diagnosis at operation; stomach *not operated on*; reports well four years later.

3. *Stones in Common Duct.*—Thirteen, or 70 per cent., of the nineteen patients in this group report as being entirely cured. Of the remaining six, five were undoubtedly so much benefited as to justify the operation. The other patient classified as no better still suffers from intermittent attacks of pain and jaundice.

Two of the cured patients in this group had cholecystectomies and the remaining seventeen, cholecystotomies.

4. *Gall-Stones with Empyema of Gall-Bladder.*—The twelve patients in this group all report as being entirely cured. Only three underwent cholecystectomies.

5. *Gall-Stones with Chronic Pancreatitis.*—In this group there are eleven patients with ten cured and one improved. The patient classified as improved states that she was well for three and one-half years following the operation, but that recently she feels that the old pains are returning.

6. *Extensive Adhesions in Region of Gall-Bladder.*—There are nineteen patients in this group and sixteen, or 84 per cent., report that they are well; the other three who are classified as *improved*, still complain of symptoms apparently referable to the adhesions.

7. *Complications from Coincident Pelvic Operations.*—This group of forty-two patients with only twenty-eight, or 66 per cent. of cures, is by far the most unfavorable in the series. Several in this group state that they did not know they had gall-stones before the operation, but have suffered greatly from them since their removal, a fact which would strongly suggest a neurotic element. The majority of the remainder complain of symptoms referable to the pelvis, or are very indefinite in their answers.

CAUSES OF FAILURES

An analysis of the symptoms and causes producing the discomfort in the patients not cured, gives some interesting and instructive data. Thus twelve patients still complain of symptoms indistinguishable in kind from those existing before operation and believe that the gall-stones are still troubling them. In four other cases stones are known to have been overlooked, and it seems more than probable that stones would be found at operation in at least several of the twelve cases, if the patients were subjected to a second operation. In others the symptoms are undoubtedly due to imperfect drainage, the result of inflammatory strictures or adhesions.

Probably of equal practical importance to the foregoing is a group of fourteen patients, who feel that their operation was not entirely successful and yet, whose symptoms are apparently for the most part not referable to the gall-bladder. All the patients in this group had more or less extensive pelvic work done at the time of the gall-stone operation, and still complain of distressing symptoms for the most part referable to the pelvis. Strictly speaking, these failures should not be charged against gall-bladder surgery, but from the view-point of the patient and family physician, surgery is probably held responsible for the results.

Next in point of frequency and importance we find ten patients suffering from symptoms quite definitely referable to crippling adhesions. As this post-operative condition will probably be one of the last to be eliminated in gall-bladder surgery, it is worthy of note that all of the patients in this group think the benefits derived, entirely sufficient to justify the operation.

Seven patients state that they have postoperative hernias, but in only three instances are the hernias mentioned as causing any particular discomfort. Three patients report a return of their old symptoms, three years after operation, while a fourth one had an attack of jaundice beginning three years after operation, but was later apparently relieved by taking the cure at Carlsbad. Clinically these cases may properly be considered as instances of recurrence of stones which would give an apparent recurrence of stones in about 1 per cent of cases (see Table 3).

TABLE 3.—GALL-STONE CASES, CHIEF SYMPTOMS AFTER OPERATION IN UNCURED PATIENTS

Original symptoms referable to gall-bladder (more or less improved)	12	Pain under right shoulder	2
Symptoms referable to complicating pelvic lesions	14	Persistent sinus	2
Adhesion-like symptoms in region of gall-bladder	10	Postoperative phlebitis and sequelæ	2
Postoperative hernia (only three producing discomfort)	7	Return of symptoms three or more years after operation	4
Stones overlooked (found at subsequent operations)	3	Since operation "has passed large number of stones"	1
Slight drag in region of wound (temporary only; classed as cured cases)	3	Slight jaundice at times (a common duct case)	1
		Gastric ulcer (gastro-enterostomy)	1
		Vomiting and eructation of gas	1

TABLE 4.—END-RESULTS CHOLECYSTITIS WITHOUT STONES

Ochsner	92
McMullen and Stanton	7
Total	99

Pathological Diagnosis	Total No.	—Cured— No.	%	Satisfactorily Improved No.	%	Improved No.	%	No Better No.	%
Total	99	46	46	10	10	23	23	19	19
"Cholecystitis;" description of lesion not given	54	26	48	5	9	10	18	13	24
Empyema gall-bladder	3	2	..	..	..	1	..	..	..
Gangrene gall-bladder	1	1	.	..	..	..	..	..	..
"Tarry bile"	3	3	..	..	..	..	..	..	..
Sandy bile	10	5	50	2	..	3	..	..	..
Cholecystitis with adhesions	14	7	50	1	..	5	..	1	..
With intermittent jaundice	4	1	..	1	..	2	..	..	..
With acute pancreatitis	1	1	..	..	..	..	..	..	..
With chronic pancreatitis	3	..	..	1	..	..	..	2	..
With postoperative sinus	2	1	..	..	..	1	..	..	..
With enteroptosis	3	..	..	..	..	..	..	3	..
With gastric ulcer	4	..	..	1	..	3	..	..	..
With complicating pelvic ops	1	..	..	..	..	1	..	..	..

In six of the cured and one of the satisfactorily improved cases cholecystectomies were performed. Remaining ninety-two all cholecystostomies.

CHOLECYSTITIS WITHOUT STONES

In this group I have included ninety-nine patients in whom the clinical symptoms were strongly suggestive of gall-bladder disease, and whose cases were at operation considered to be cholecystitis without stones. This group of ninety-nine patients presents in many ways a striking contrast to the true gall-stone group. *In the* gall-stone cases the results are well defined and of such a nature as to allow quite accurate classification, while in the cholecystitis group the patients themselves seem to have a good deal of difficulty in answering the questions. Furthermore, the gall-stone results are decidedly satisfactory, while the late results in the cholecystitis cases are often disappointing.

Of the ninety-nine patients, forty-six (46 per cent.) may be classified as cured, and most of them date their cure from the time of operation, although a few state that the return to health was a gradual one, extending over months or years, which gives one a suspicion that in these latter the operative treatment may at least have been aided by a considerable tendency toward a spontaneous subsidence of the trouble.

Ten (10 per cent.) are classified as satisfactorily improved, the patients' own estimate being taken as regards the amount of benefit derived.

Twenty-three (23 per cent.) are classified simply as improved, the majority of these patients stating that they were apparently cured for a period ranging from a month to a year or more after the operation, at the end of which time the symptoms again returned much the same as before operation.

Nineteen patients state that their trouble was either not benefited or was made worse by the operation.

Table 4 gives an analysis of the ninety-nine cases as far as the data at hand will permit.

ADHESION CASES WITHOUT STONES

In six cases the only operative interference was the loosening of adhesions between the gall-bladder and duodenum or colon, the adhesions being so placed as to make it appear at operation that the gall-bladder or ducts were kinked by the pull of the adhesions. Five of these patients now report being cured by the operation, and the uncured patient is an example of a severe grade of enteroptosis.

MALIGNANT CASES

It is possibly a significant fact that we have, so far, been unable to trace any of the patients with malignant tumors who made a primary recovery.

CONCLUSIONS

1. In the hands of those qualified to undertake the work, the operative treatment of gall-stone disease is one of the most satisfactory branches of surgery, and the cures may be safely estimated at over 80 per cent., while the majority of the remainder are so greatly benefited as fully to justify the operation.

2. The most favorable cases in all respects are those in which the stones are still confined to the gall-bladder. The operative mortality in these uncomplicated cases is almost nil, and the proved end-results are practically all that could be desired. These two facts in themselves should enable us to settle any question as to the proper time for operation.

3. The most important principle of gall-stone surgery is the complete removal of the stones, with the least possible damage to the biliary tract. Overlooked stones are probably the most important simple cause of uncured patients.

4. If, as a result of the operation, all obstructions within the biliary tract are removed, a cure is almost certain to result.

5. No evidence has been found in this series of cases to show that cholecystectomy should ever be the *operation of choice* in gall-stone cases, unless there be chronic cystic duct obstruction or the gall-bladder so diseased as to make a cholecystectomy technically safer and easier to perform than a cholecystostomy.

6. Every effort should be made to guard against postoperative hernia.

7. A *guarded prognosis* should be given in cases complicated by pelvic lesions.

8. In our series, operations for cholecystitis without stones have not shown better results than could *probably have been secured by* medical means, and unless better results are *obtained* in this class of cases in the *future*, surgeons should learn to avoid them.

FACTORS HOSTILE TO SUCCESS IN GALL-BLADDER SURGERY *

B. B. DAVIS, M.D.

OMAHA

In the mass of literature flooding the medical periodicals during the past few years, the technic and operative mortality of the surgery of the gall-bladder have been considered exhaustively. Final results have rarely been alluded to. This is natural during the developmental period of any surgical procedure, and results can be determined only after the lapse of considerable time.

Enough has been proved so that all can agree that in the larger number of cases of gall-bladder disease in which the treatment is surgical, the results are ideal; the patients are cured and pass quickly from a state of suffering and invalidism into a condition of health and comfort. There can, therefore, be no difference of opinion regarding the great benefits obtained in this comparatively new field.

But not all are cured. Some are *not benefited*, and occasionally one is found whose *sufferings after operation are as bad or even worse than before*. It is to a consideration of this comparatively small minority that attention is directed at this time.

The causes of non-relief, the conditions which th usual surgical methods do not cure, have been the objec of much interest for a number of years. No importan discovery has been made, but many little details ar worthy of our earnest consideration.

For clearness, the factors *interfering with complet* postoperative relief may be divided into four classes:

I. Causes intrinsic to the gall-bladder and bile-ducts
II. Causes extrinsic to the gall-bladder and bile-ducts
III. Inadequate operative technic.
IV. Neglect of after-treatment.

I. CAUSES INTRINSIC TO THE GALL-BLADDER AN BILE-DUCTS

Under the first class are any and all pathologic conditions arising before operation which render a continuation of normal function impossible. These conditions are chiefly mechanical, and include all the factors that make for bile stagnation—everything that inhibits the free and normal flow of the bile from the liver and gall-bladder into the duodenum. All changes in the lumen and directness of the ducts which will hinder the free flow of the bile through the common duct, from the hepatic ducts through the cystic into the gall-bladder and from the gall-bladder through the cystic duct into the common duct, will naturally, according to the extent of the interference of normal bile circulation, prevent complete and perfect convalescence.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at *Los Angeles*, June, 1911.

These several factors consist of enough destruction of mucous membrane of the common, hepatic or cystic ducts to produce stricture of caliber small enough to retard the free passage of the bile. The duct walls are also sometimes so infiltrated that the muscular layer is replaced partially or wholly by fibrous tissue. Thus the normal elasticity is forever lost and I know of no process by which it can be restored. A duct thus deprived of its elasticity is still capable of acting as a channel through which the bile will flow when the pressure behind is sufficient, but it permits at best a stagnant stream and is a poor substitute for the elastic, muscular duct through which a peristaltic wave is supposed to pass three to four times a minute during the period the stomach contents are passing through the duodenum.

The gall-bladder also undergoes periodic contraction and helps to force the bile through into the duodenum. If its contractility is retarded or destroyed, another important aid to the active excretion of the bile is lost. A gall-bladder with a very thick infiltrated wall resulting from an intense or prolonged infection; or thinned and the muscular coat replaced by a fibrous coat; or if the gall-bladder is already much atrophied, having a capacity of only one or two drams, the peristaltic aid to quick and forcible propulsion of the bile into the duodenum will be lost. This loss is small compared with the results of bile remaining stagnant in the cavity of the gall-bladder, inviting infection and permitting an undue precipitation of bile-salts and the formation of gall-stones.

That myriads of microorganisms make their way from the intestinal lumen via the portal vein to the liver, thence through the bile-passages to the duodenum is an established fact.

When the bile is ejected freely these germs may pass and continue to pass through for a life-time and do no harm. But if the contractility of the gall-bladder is destroyed and the microorganism-containing bile lies stagnant in the gall-bladder for hours and days, reinfection of that gall-bladder is almost certain and, as a sequel, infection of the common duct and of the hepatic ducts. This establishes a vicious circle which spells disaster sooner or later.

II. CAUSES EXTRINSIC TO THE GALL-BLADDER AND BILE-DUCTS

Several conditions extrinsic to the gall-bladder are frequently encountered which must be overcome before normality can be reached. First among these extrinsic factors are pericystic adhesions, however produced. They may be the sequel of a previous cholecystitis which has been entirely recovered from. They may be the result of a former appendicitis. They may result from a duodenal or gastric ulcer which has almost or completely perforated, a general peritonitis having been prevented by the prompt formation of adhesions. They may be due to a general peritonitis from whatever cause. Sometimes the suspension of the gall-bladder to the anterior abdominal wall is the source of not only painful adhesions, but they may be so placed as to materially lessen the ability of the viscus to contract and expel the bile. The general effect of adhesions is to produce stagnation of bile in the gall-bladder. Its ability to contract and expel its contents is not only interfered with but the effort to contract is often very painful and may produce a variety of serious symptoms. Several times I have encountered adhesions between the gall-bladder and the duodenum or pylorus which have produced enough angulation to interfere seriously with the normal emptying of the stomach, and all the symptoms of pyloric obstruction were present.

Adhesions of the gall-bladder may also be so situated that the cystic duct is so bent or twisted that bile cannot flow through.

One case was encountered in Wise Memorial Hospital presenting all the characteristics of obstruction of the common duct. There were pain, vomiting, and repeated attacks of deep jaundice. Operation was undertaken under the mistaken diagnosis of stone in the common duct. No stone was found but the interesting condition was demonstrated of a right kidney, not prolapsed, but so twisted on its pedicle as to cause obstruction of the duct. The abdominal incision was closed and the kidney anchored. Complete relief of all the previous symptoms was obtained — relief which has now continued more than six years.

Prolapse of the liver may seriously interfere with normal bile excretion. The stagnation may be due in part to gravity and in part to angulation of the ducts.

III. INADEQUATE OPERATIVE TECHNIC

With all the variety of conditions which may be present it is not possible to lay down any hard and fast rules in operating. The man who essays to do gall-bladder surgery not only must be equipped with a good clean surgical technic but must have a quick and elastic surgical instinct. He will have to be endowed with a *mind* capable of coping not only with pathological but with *mechanical problems.*

The very nicety in which bile-drainage is normally carried on calls for a nicety and exactness in surgical technic not demanded in many of the other surgical areas. If he lacks in a clear comprehension of the entire problem, while relieving one painful condition he may substitute another as bad or worse.

Those who have had much experience in surgery of the gall-bladder will agree that this is not a mere fanciful whim, but a stern reality. Many patients have gone to a surgeon to be relieved of occasional attacks of biliary colic. After recovery from the operation they have found that instead of being occasional, the pain has become constant. A secondary operation is likely to reveal universal pericystic adhesions. A number of personal experiences of this kind have impressed me with the view that postoperative adhesions are to be greatly dreaded, and all efforts should be made to avoid them. The method so universally followed a few years ago of suspending the fundus of the gall-bladder to the abdominal wall was a fruitful cause of postoperative pain and discomfort. If the purse-string about the drainage tube is accurately applied ventro-suspension is never needed and I discarded it several years ago, with the effect of less pain during the convalescent period and a very much less number of cases incompletely cured.

All rough handling of the gall-bladder and the surrounding viscera is likely to produce postoperative adhesions. For this reason all the tissues encountered should be treated with the greatest consideration. The man who mauls and maltreats the tissues with which he deals will not only find his operative mortality large, but many patients unrelieved or only partially relieved. The greatest nicety in all intra-abdominal work is of the utmost importance if adhesions are to be avoided.

Drainage by means of tubes or gauze about the gall-bladder is decidedly inimical to postoperative comfort and should never be used if any means can be employed to avoid it. A firm mass of adhesions always results from the free use of drainage. Fortunately the adhesions do not always do harm, but they are so frequently disastrous that every means to prevent them should be employed.

If adhesions are already present before operation the problem becomes more complex. But it is not usually insurmountable. In operating for painful adhesions one can always have the feeling that even if they form again they may be so situated as to do little harm. Much can often be done to prevent the reformation of dense adhesions by covering up the denuded area with normal peritoneum, at least where adhesions are most likely to cause pain or stagnation.

A gall-bladder which has been completely covered over with adhesions that have produced great suffering is frequently better removed. After having resorted to this procedure a number of times I have concluded that adhesions to the under surface of the liver where the gall-bladder was formerly located is much less serious than adhesions to the gall-bladder itself.

When operating for gall-stones no effort should be spared in searching and recovering every stone. The search should be very gentle but very thorough. Stones in the hepatic ducts and in the duodenal end of the common duct are most elusive, but careful search will usually be rewarded even in these localities.

A gall-bladder with a fibrous wall totally lacking in muscle fiber is a menace and if merely drained is prone to give so much future trouble that a second operation for its removal is often necessary. For this reason this type of viscus is better removed at the primary operation. I fully concur with those who look with alarm on the indiscriminate excision of gall-bladders. As long as there is a reasonable hope of its resuming its normal function there is every reason for retaining it. But a functionless gall-bladder is worse than no gall-bladder. By its production of stagnation it is a constant invitation for germs to do their worst.

For these reasons I would remove all gall-bladders whose mucous membranes have been destroyed as well as those whose cystic ducts are no longer patulous and cannot be made patulous. When the obstruction is evidently due to temporary inflammatory swelling as soon as the infection is relieved by the establishment of drainage the lumen is likely to regain its normal diameter.

When there is a general cholangitis, especially when the infection extends into the smaller hepatic ducts, the dangers are great and the necessity for exceptionally free drainage is of the utmost importance. Here duct drainage not only lowers the immediate mortality but aids greatly in bringing about a complete cure. I am convinced that there is a tendency in this class of cases to withdraw the tubes too soon. No harm can result from prolonged drainage, and a great risk is taken by stopping the drainage before the infection is relieved. When the infection is deep, if the drainage is kept up until the bile becomes sterile, the number of patients permanently relieved will be greatly increased. It may frequently be necessary to continue drainage several weeks, but that will be time well expended if it results in permanent recovery.

A paper with the limits of time allotted must of necessity be more suggestive than exhaustive. Great care in adapting the operation to the conditions found is of the utmost importance if we would increase the percentage of complete cures.

Careful operation in cases not complicated by fibrosis of the gall-bladder, wide destruction of the mucous membrane or distorting adhesions is almost universally followed by complete relief. This leads logically to the corollary that if in every diseased gall-bladder the patient could be operated on before the long array of secondary complications have occurred, disastrous postoperative sequelæ could be almost certainly avoided. Every painful attack adds to the total of the diseased conditions. Therefore the sooner a diseased gall-bladder that is not relieved promptly by non-surgical treatment is drained, so much the lower will be the operative mortality and the higher the percentage of complete cures.

IV. NEGLECT OF AFTER-TREATMENT

The discharge of patients operated on for gall-bladder disease as soon as they have completely convalesced from the operation without further treatment, I look on as one of the most unfortunate customs that surgeons have fallen into. The operation is for the purpose of removing as far as possible the gross diseased conditions. By the few days' drainage the infection so frequently present is mitigated. The practice in continental Europe of undergoing a cure at Carlsbad is along the correct lines. Not all of our patients can take the Carlsbad cure, but by a thorough understanding between the surgeon and the family physician a very good imitation of it can be carried on at home.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. STANTON AND DAVIS

Dr. Robert T. Morris, New York: I will make but four points: 1. Closure of a sinus after gall-bladder removal. One case in which the gall-bladder and stone were removed had such adhesions that I could not make an opening into the common duct, and a sinus followed, with secretion of mucus from the remains of the cystic duct. It was a question if this could be closed by injection of bismuth paste while the active mucous glands were secreting. I asked the patient to go to Chicago and see Dr. Beck. He quoted a case in which a sinus with secreting kidney had been closed. In this case bismuth paste closed the sinus. That is worth recording.

2. Why is it that gall-stones do not often reform when we have removed them once? It is probable that gall-stones begin to be formed in some one toxic attack. I doubt if stagnation has very much to do with it. The theory on which we may assume that gall-stones begin to form in some one toxic attack is (1) that they are not often reformed; (2) all sorts of concretions are now believed to be due to colloid materials making combination with insoluble salts and cholesterin. This you may prove by taking a kidney-stone or gall-stone and putting it into a weak solution of sodium hypochlorite (antiformin) and in a short time it will become powder, because of the solution of the colloid material in the hypochlorite solution.

3. Dr. Stanton thinks cases of cholecystitis without stones have not shown better results than could probably have been obtained by medical treatment. That states a different point of view from mine. Some of my most successful surgery has been in cases of cobwebs in the attic of the abdomen—the toxic cobwebs which form with epithelium a desquamating plastic exudate. Adhesions form, engaging the pylorus, the gall-bladder, the hepatic flexure of the colon and the various structures in this region. These patients may give practically every symptom of gall-stone, but on operating we find no gall-stone. We have to explain the situation to the family, and it is sometimes a difficult matter to explain. Do not talk about gall-stones; make a diagnosis of cholecystitis, and if we find gall-stones incidentally, that is all velvet—but they are exceptional and we must go way back to this process which leaves the toxic insignia in the form of the cobwebs

in the attic before we can unravel and analyze our cases of symptoms referable to the gall-bladder.

4. Pancreatitis is one of the most common complications of infection in this region, and I do not mean the pancreatitis which gives such definite symptoms that it is readily diagnosed; I mean an interstitial pancreatitis found post mortem, if we look for it. We will find that it is an unsuspected cause for many of the distressing symptoms subsequent to operations on the gall-bladder.

Dr. A. J. Ochsner, Chicago: I believe that Dr. Stanton is on precisely the right track. In order to determine what to do for these patients we must first determine what happens after we have treated them according to the different methods. If we find that there is a certain class of cases in which a certain form of treatment gives satisfactory results then it is proper to call that form of treatment good and to continue it.

Concerning the unsatisfactory cases we must classify them as cases in which either there is something wrong about the diagnosis or about the treatment. Then we must continue until we either come to the conclusion that surgical treatment for these cases is bad, or we must continue to experiment until we find some operation that is good.

I believe that in this class of cases in which there was so large a percentage of unsatisfactory results, there must have been many in which the cholecystitis was simply one of a *number of troubles*. We have found, for instance, many patients suffering from the intestinal intoxication due to stasis caused by a Lane's kink, and in that particular portion of this classification we should have performed a short-circuiting operation to overcome this intestinal stasis.

There is another class of patients that I wish to speak of, which we formerly treated very badly. I refer to the patients suffering from acute biliary colic. In the early treatment of these patients we foolishly thought they were so terribly sick that they had to be relieved at once. We consequently operated on them immediately and increased our mortality far beyond what would be reasonable now. There is no sense in operating on patients who are suffering from a severe acute surgical condition which must of necessity be temporary. What our distinguished president told us yesterday in his address holds good. We must use better judgment in these cases. Why do these patients have a severe acute colic? It is simply because something is trying to pass from the stomach, past the papillæ, into the small intestine. You make it impossible for anything to pass by washing out the mucus or whatever is in the stomach by gastric lavage and not putting anything further into the stomach. Many patients in whom the pain could not be controlled by ½ grain., or 1 gr., or 2 gr., of morphin, will go to sleep and have no more pain. After a week or two the acute condition has subsided and the patient will recover with 1/10 of 1 per cent., instead of a relatively high mortality which we had when we did not have the wisdom to use this preliminary treatment.

What Dr. Morris has just told us about pancreatitis is of very great importance. I have had cases in which I found an obstruction due to pancreatitis which in itself caused the cholecystitis, and the passing of the products of the cholecystitis through the common duct caused an increased irritation and increased the pancreatitis, causing a vicious circle, and yet that class of patients recovered permanently with the cholecystotomy.

We should bear in mind the fact that practically all of the patients in whom there were severe gastric symptoms, due to the presence of gall-stones, recovered permanently. All of the symptoms of obstruction, the apparent pyloric obstruction which was not due to an obstruction at all of the pylorus, but to an obstruction in the duodenum, due to irritation caused by gall-stones, subsided; the apparent dilatation of the stomach and all other stomach symptoms subsided. It is not difficult to understand this when you simply look on the stomach, gall-bladder and duodenum as a coordinated machine, with this one point of interference.

Dr. J. F. Percy, Galesburg, Ill.: I regret very much that Dr. Deaver was not here with his paper this morning, because it brings up or discusses a subject that has already been suggested by Dr. Morris and that is chronic interstitial pancreatitis in its relation to diabetes, and I speak of this point here because I believe that it is germane to the subject. I do not believe that Dr. Deaver could prove from his paper that chronic interstitial pancreatitis involving the islands of Langerhans invariably, or even in a small percentage of cases, produces the symptom-complex diabetes. Yet there is something in this subject that has not been worked out, and one of the questions that is going to be acutely before us in the days to come is the working out of this subject. It is not an uncommon experience to find postmortem sclerosis in the islands of Langerhans, although during life there were absolutely no symptoms either of diabetes or even of ill-health; and so with reference to this part of the subject, so far as the infections from the gall-bladder are concerned, or from the duodenum, from ulcer of the stomach and from that great unworked field of infections from the colon, we do not know the etiology.

It is a curious and interesting thing that the spleen has none of the diseases that the pancreas has. The spleen practically has no inflammatory diseases, and the probable explanation of it is that the spleen has no ducts. The pancreas has ducts. The spleen has no neighbors, the pancreas has neighbors and very dangerous neighbors—the duodenum, the gall-bladder, the stomach and the colon. The spleen does not come, therefore, within the zone of these environmental dangers, and therefore we do not have the sclerotic changes that we see in the pancreas. All of us have had the experience that in opening the abdomen we find enlargement—when the pancreas is involved—of the head of the pancreas. It is a rare thing to find the body or the tail of the pancreas involved. Why this is I do not know. How much do the epidemic infections of the gall-bladder, occurring in childhood, have to do with these later changes in the gall-bladder or in the pancreas? These I throw out merely as mooted points. I am unfortunate in not being able to answer them.

Dr. Frank LeMoyne Hupp, Wheeling, W. Va.: I wish to speak of gall-stones complicating complete left transposition of the liver. That patients with this anomalous condition of affairs are rare is shown by the literature. After a diligent research I found three cases in addition to my own; one reported by the lamented Dr. Carl Beck of New York (*Annals of Surg.*, xxix, 670), one by Dr. Billings of Chicago (*Phila. Med. Jour.*, Oct. 6, 1900), and one by Dr. W. J. Mayo, (Keen's "Surgery," iii, 970). It was my privilege to come across one of these rare and interesting cases within the last eighteen months. A woman, aged 33, with the usual history of bilious spells, pain and jaundice, was admitted to our city hospital, emaciated, jaundiced, four and one-half months pregnant and suffering almost constant pain in the epigastrium, occasionally radiating to the left. The precordial area and apex beat of heart were to the right of the usual situation. The hepatic area of dulness was decidedly diminished. The malposition of the liver was not suspected until the abdomen was opened with the usual right rectus incision, and a careful exploration failed utterly to reveal the offending gall-bladder. Bevan's incision was made, cutting entirely through the right rectus and with wide retraction to the left.

The anomalously placed organ was found completely transposed and filled with gall-stones. The stones were removed and drainage effected and the patient made a perfect recovery and gave birth to her child in due time.

Dr. E. M. Stanton, Schenectady, N. Y.: One of my main thoughts in starting this work was to determine the type of cases which really needed cholecystectomy. Of course in classifying groups like these, there are innumerable ways in which it may be done. I grouped all of the so-called badly diseased gall-bladders and studied the cures with and without cholecystectomy, and I must admit that I was greatly surprised to find that, even in the case of thick-walled gall-bladders—the almost functionless gall-bladders, as we ordinarily consider them—the results were better in the cholecystotomies than in the cholecystectomies, provided only that there was no obstruction to the cystic duct at the time of operation.

In regard to cholecystitis without stones, we can only say that these cases *necessarily include patients operated on a* number of years ago, and therefore represent the pioneer days of cholecystitis surgery.

In some of these cases the results are brilliant; but in most of them the results are not satisfactory. The 40 to 50 per cent. of cures represents the final cures. There is no evidence that so large a percentage were cured by the operation. Some of the patients now reported as well recovered only a number of months or years after the operation. Very many patients who were apparently cured for the first six months or so (the time that the surgeon ordinarily keeps track of his patients) report a few years afterward that they are no better than before the operation.

Undoubtedly as we know more of the real pathology of cholecystitis we shall be able to improve the results. The type of cholecystitis described by Dr. Mayo as a strawberry gallbladder, and the type spoken of by Mr. Moynihan in which the mucosa is covered by crystalline material, are apparently cured by cholecystectomy.

My studies have convinced me that we must be very careful in the treatment in these cases, even though we are sure that they are real cases of so-called cholecystitis, under our present-day concept of this lesion. Cholecystectomy alone does not give satisfactory results.

DR. B. B. DAVIS, Omaha: There is only one point I wish to speak of and that is the point brought out by Dr. Morris with respect to the frequency of chronic pancreatitis in these cases. I fully concur with him in his statement; and I believe that we should recognize and always examine carefully for this condition; and in all instances in which we find there is a good deal of induration of the pancreas—in other words, a chronic pancreatitis—we should drain a much longer time than we do in the ordinary, simple, uncomplicated case.

MERCURIC-CHLORID POISONING

ASSOCIATED WITH SECONDARY HEMORRHAGE FROM VAGINAL DOUCHE GIVEN SEVEN DAYS AFTER DELIVERY

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NEW YORK

In the unfortunate case which I desire to report, on Thursday, Feb. 3, 1910, I ordered a mercury bichlorid vaginal douche, two quarts, strength 1 to 4,000. The patient, 34 years of age, delivered on January 27, had completed seven full days of her puerperium. *This was her second confinement.*

While the nurse was giving the douche, the patient suddenly experienced a sharp pain in the left side of the pelvis, and at the same time there was a hemorrhage so alarming that the nurse, having in mind nothing but danger from loss of blood, quickly prepared and gave a second douche the same as the first, as the best means of controlling the bleeding. The patient in the meantime felt frightened, faint, and chilly, and her pulse was just over 100. The nurse then telephoned to me.

On arriving at the house I examined the patient with a speculum, and finding a laceration of the left side of the cervix from which the bleeding had evidently occurred, I packed against the cervix with dressing forceps two small pledgets of gauze, wrung as dry as possible out of a bichlorid solution of the same strength as the douche. (If the gauze tampons contained a teaspoonful of the solution, this would have been about one-sixtieth grain of bichlorid. They probably contained less.) Up to that time and for twenty-four hours afterward, the accident seemed to be important only as a case of secondary hemorrhage from the lacerated cervix. Within six hours the pulse had fallen to 84. The tampons were removed the following morning, there was no further hemorrhage, and the [illegible] to be doing well.

[illegible] however, a little sanguinolent mucus was [illegible] and mercurial poisoning was recog- [illegible] mild that it was hoped it would [illegible] velopments. Castor oil by mouth [illegible] eral quarts of continuous flow, were included in the treatment. But after three days, ptyalism developed, and on the fourth day vomiting and diminished secretion of urine with albuminuria and casts. During the fifth day there was almost total suppression of urine. But the volume of urine was quickly restored to almost normal within two or three days afterward, vomiting ceased, temperature remained normal, pulse was slow and of good quality, and our consulting physician, who saw her first on Tuesday, February 8, and daily (or almost daily) thereafter, at all times during the remainder of my attendance expressed the opinion that the patient would recover and that there would be nothing the matter with her kidneys. She would not die, because she had not absorbed enough of the poison to kill her.

The patient had a distressing stomatitis and was averse to taking food. In the middle of the second week after the accident she obstinately refused food, even all kinds of liquid nourishment. But she drank water freely, and we were assured that this difficulty would pass off before her strength would be seriously impaired. A brother of the patient, who is an eminent physiologist, concurred in this opinion. Three weeks from the date of confinement, and two weeks after the absorption of the poison, the patient was turned over to the family physician, by whom she had been referred to me. All her organs with the exception of the stomach were believed to be functionating in a satisfactory manner, and her recovery was supposedly assured. This prognosis was confidently expressed by all the physicians in attendance. Laboratory reports on the urine were equally reassuring. Unfortunately, however, a few days later she took a change for the worse and died of intercurrent bronchopneumonia and edema of the lungs on February 24, just three weeks from the date of poisoning, and four weeks after delivery.

I had recently seen a case of secondary hemorrhage after late repair of the cervix, the hemorrhage occurring spontaneously when no treatment was in progress, presumably from the separation of a small slough or the cutting out of a suture. Hirst refers to cases of this kind sometimes due to the dislodgment of a clot several days after delivery. In the present instance, however, it is more natural to assume that the douche in some manner caused the hemorrhage.

It is assumed that several elements contributed to the fatal result. The general health of the patient was not robust. Her strength was certainly impaired by the hemorrhage, which occurred during the giving of the first douche. And, although (in the light of later events), one might possibly have interpreted the pain and symptoms of shock at that time as being associated with the absorption of the mercury, they were originally, and probably correctly, ascribed to relaceration of the cervix and the loss of blood. Such a clinical picture may accompany almost any internal injury. The young men on my house staff at the New York Infant Asylum were strongly of the opinion that the poison was chiefly absorbed from the second douche, a certain amount of which would be rapidly taken up to restore the volume of blood depleted by the hemorrhage. (Curiously enough, the nurse afterward denied that the second douche, or the fluid used for the tampons, contained anything but hot sterile water.) There was no reason to believe that fluid was retained in the uterus or vagina or any pocket or cavity to be absorbed later. It was assumed by the consulting physician that there was an idiosyncrasy to mercury. The final result may have been determined by the patient's obstinate resistance to treatment and refusal to take nourishment. This obstinacy may have been entirely foreign to her natural disposition. The same intractability is particularly noted in the case of bichlorid poisoning from tablets inserted in the vagina, reported by Dr. B. Lankford.[1]

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[1] Lankford, B.: THE JOURNAL A. M. A., April 9, 1910, p. 1203.

Bichlorid vaginal douches are still very commonly employed by physicians and midwives, and accidents are exceedingly rare. A vaginal douche at the end of labor, 1 to 4,000 bichlorid, is recommended in the last edition of King's "Manual of Obstetrics" in the conduct of normal labor. Davis gives identical advice. Such douches, whatever harm they may have done, have doubtless accomplished a world of good in preventing sepsis where examinations have been made, and where infection may have been present and unsuspected.

Infection is still, undoubtedly, the greatest danger which threatens the obstetrical case. Statistics published in the Monthly Bulletin of the New York State Department of Health indicate that the deaths of fifty-two women were ascribed to puerperal septicemia in the state of New York alone in the month of March, 1911.

Williams frowns on the routine use of the vaginal douche as predisposing to morbidity and fever, and sounds warning against the danger of fatal bichlorid poisoning from even a single intra-uterine douche. Simple saline solutions and safer antiseptics are now being presented which may prove efficacious and harmless. Jewett, Edgar, and others recognize the need of great caution. My own practice was outlined in a paper published in the *New York Medical Journal* in 1905, under the title "Asepsis and Antisepsis in Midwifery." I had discontinued the use of the vaginal douche entirely, before, during, or after labor, except when urgently required, or as stated in my paper, during the second week after delivery, to promote involution and on account of the grateful sense of cleanliness afforded to the patient. In the more recent years, even this treatment had been omitted in most of my cases, as being unnecessary rather than harmful, being used only among the so-called better class of cases, in which a trained nurse was present to give it properly, exercising care to be sure that no fluid were retained. At the time of this case reported, I was attending a patient in her fourth confinement, all of which had been under my care, and for whom no douche had ever been ordered.

A review of obstetric teaching, as found in the latest editions of leading American text-books, and such as I have since made, would not have influenced my practice, apart from this unfortunate case. The case here reported, however, teaches that a combination of conditions is possible, under which poisoning may occur from a vaginal douche given a whole week after labor. This must certainly be a warning against the use of douches at any time, except when very definitely indicated. I can only regret that my previous knowledge and experience had permitted me to use them within the limitations here stated, without any misgivings as to the vaginal douche at a period so remote from delivery.

19 Fifth Avenue.

Weak Protoplasm.—C. B. Davenport (*Popular Science Monthly*) says that a heavy incidence of disease in any county does not always mean unfavorable environment. He has plotted the imbeciles received by an institution in a small state. The ratio of incidence of this condition to the entire population is high in some counties (chiefly rural) and low in others, due to the presence or absence of foci of the defect. Similarly the varying rate of deaf-mutism is determined by the density of defective germ plasm. So, also, despite its fine climate, the rising generation in California is characterized by diseases of the mucous membranes, because a generation ago much weak protoplasm was attracted to this state as a sanatorium. Blood, he says, is as important a factor in determining the occurrence of disease as climate.

GOITER AMONG THE INSANE

A STUDY BASED ON AN EXAMINATION OF 4,184 PATIENTS *

AXEL WERELIUS, M.D., AND C. G. RYDIN, M.D.
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INTRODUCTION

The conception of a disfunctionating thyroid being a causative factor in insanity is based on the highly interesting theory of internal secretion and that of auto-intoxication. As early as 1730, Haller mentions that Ruysch advanced the supposition that the "blood-vessel glands" manufactured some substance that was thrown into the blood-stream. The term "internal secretion" is said to have been used first by Claude Bernard.

No particular interest was manifested in this supposed glandular internal secretive process until Brown-Séquard,[1] in 1899, began experiments on himself with testicular extract. He finally concluded that all tissues gave an internal secretion, characteristic of its source. This idea, has, however, been discredited by the subsequent work of others, and it is now fairly well established that this process is in the main, characteristic of glandular organs, and not only of the ductless ones, but of the typical glands as well, as, for example, the pancreas, and probably also the kidney, liver, etc.

The important rôle played by perverted secretion of these special glands in psychoses has been specially emphasized by numerous authors. The condition created by such changed secretion, or a hyper- or hypo-elimination of the aforesaid organs, would then be in the nature of an intoxication, or rather auto-intoxication.

The prominence of intoxication in relation to disease was first brought to attention by Bouchard[2] in 1830, who gave a series of lectures on the subject. Rigo later emphasized its importance in mental disease. In 1884, Senator[3] spoke of a self-infection, originating from the digestive apparatus, as specially affecting the nervous system.

The notion of the internal secretion of the thyroid being an etiologic factor in insanity was conceived by noting the occurrence of mental phenomena in myxedema and Graves' disease. Thus it was assumed that mental change might be occasioned by a hypersecretion, a hyposecretion or a perverted secretion of this organ.

HYPERTHYROIDISM VERSUS PSYCHOSES

Antedating Basedow's description in 1840 of the symptom-complex that now bears his name, were the reports of a few earlier authors, who, it seems, described the condition and also mentioned that it may be associated with mental phenomena (Parry, 1825; Bruck, 1835). No doubt even the laity, observing the wildly staring eyes in typical cases of hyperthyroidism, considered the condition as one of deficient mentality.

As early as 1862 Bruck, and in 1866 Geiger, recorded cases of Graves' disease associated with symptoms of insanity. Graves, himself, noted the frequency of severe hysteria in this condition.

Trousseau early considered mental manifestations as cardinal symptoms of Graves' disease. In opposition to Trousseau, Raymond and Sérieux concluded that Basedow's disease had no etiologic significance in mental conditions.

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* Read at the meeting of the Chicago Medical Society, March 22, 1911.

[1] Brown-Séquard, C.: Repr. from Arch. de physiol. norm. et path., 1889, Series 5, ii, 190.

[2] Bouchard: Translated Lectures on Auto-Intoxication, F. A. Davis & Co., 1906.

[3] Senator: Ztschr. f. klin. Med., 1884, p. 325.

conclusions. They thought at first that the acute cases were somewhat benefited, but subsequent events have shown that this was erroneous. Kanavel[13] tells us that as far as he is able to judge, there is absolutely no justification for thyroid surgery in this condition.

Winslow briefly reports five cases in which operation was done, with rather discouraging results; still he believes there is some connection between the thyroid and the condition in question.

Norbury, who has had an enormous experience among the insane, and who is also a keen observer, fails to see any resemblance between Graves' disease and catatonia, and strongly doubts that the thyroid is the offending member in the last named condition.

SUMMARY OF WORK

The object of this research was to ascertain the percentage of goiter among the insane and the proportional presence of struma among the various forms of insanity.

For this purpose we examined 4,184 insane patients, 2,000 at Kankakee and the rest at Dunning. In palpating the necks of these patients we aimed to be as thorough as possible. Whenever we were in doubt as to the presence of an enlarged thyroid, we consulted between ourselves and with others, and if still in the least doubt the case was discarded. In this way, undoubtedly, some enlarged glands escaped us, but the cases enumerated as goitrous were unmistakably such.

In diagnosing the type of gland we have called a soft gland, simple goiter; a firm hard one, a fibroid, and a distinctly fluctuating one a cystic goiter. Here again, of course, several errors may have been committed.

Among the 4,184 cases there were 270 distinctly palpable thyroids (goiters), 6.45 per cent.

There were 2,125 males with forty-eight goiters, 2.25 per cent.; and 2,059 females with 222 tumors, 10.78 per cent. The relation of goiter between males and females was then about one to four or five. In these goiters the right gland was enlarged 101 times, and the left twenty-four, thus making the relative proportion one to five.

There were 131 bilateral enlarged glands, and in these almost invariably the right gland was the larger.

The middle lobe was enlarged in twelve cases.

There were 244 simple, twenty fibroid and four cystic goiters. Only two cases of typical exophthalmic goiters were found in this series.

Undoubtedly some cases of Basedow's disease, in which the symptoms were not very pronounced, escaped our attention, but it seems that in the territory tributary to Kankakee and Dunning such patients do not often manifest mental symptoms prominent enough for confinement in an asylum.

Leaving out a few types of insanity comprising a small number of cases, dementia præcox presented the greatest percentage of goiters and also the greatest number of insane. As the catatonic form of dementia præcox had been considered due to thyroid disturbance, we expected to find the greatest number of goiters in this type; but we found that the hebephrenic form had 93 per cent. of the goiters.

Next to dementia præcox came involution melancholia and then the paranoic state.

By far most of the goiters, 133, almost 50 per cent., were present in native born; Germans thirty-six, Irish seventeen, Swedish thirteen.

Further summary of the work is given in the accompanying table.

TETANY IN ADULTS

HERBERT C. MOFFITT, M.D.
SAN FRANCISCO

The first definite description of the peculiar group of symptoms to which Lucian Corvisart afterward gave the name "tetany" was by a German, Steinheim, in 1830. A year later Dance, a Frenchman, published several cases under the name of "intermittent tetanus" and during the next thirty years the French school was most active in recording clinical features of the affection, the classical papers of Trousseau being the most notable of this period. After 1870 the scene of activity was shifted to the other side of the Rhine, probably because the disease appeared less frequently in France and became more common in Germany. The most important communications of the next decade were those of Kussmaul, Riegel, Erb and Chvostek, senior, while the description of the relation of tetany to total thyroidectomy in 1880 by Nathan Weiss, writing from Billroth's clinic, and the many papers which followed slowly the discovery of the parathyroids by Sandstroem in the same year, gave new impetus to the study of etiologic factors. The endemic occurrence of the disease in Vienna afforded particularly favorable opportunity for investigation which has borne fruit in the excellent reports of Frankl-Hochwart, Chvostek junior, Escherich, Pineles, Erdheim, Schlesinger, Biedl and others. The important work of W. G. MacCallum, Halsted, Beebe and Berkeley in this country is well known. The monograph of Frankl-Hochwart (1907), or the more recent works of Ochsner and Thompson ("Thyroid and Parathyroid Glands"), or of Biedl ("Innere Sekretion"), contain extensive bibliographies.

In tetany the characteristic feature is the occurrence of intermittent tonic, usually symmetrical spasms affecting most often the extremities, particularly the arms, and rarely leading to any disturbance of consciousness. In the milder forms the arms alone may be affected and the hands brought into the peculiar position, with finger extended and approximated, the thumb extended and adducted—*la main d'accoucheur* of Trousseau. The position of the fingers can be imitated by electrical irritation of the ulnar nerve. These illustrations and the sketch by Dr. Sterling Bunnell of a patient of mine during a seizure show the typical tetany hand. In severe types spasm may involve not only the extremities, but the face, jaw, larynx, abdomen, diaphragm and even the eyes. The seizures may last a few moments or, rarely, for hours or days. Nearly always sensory phenomena accompany or precede the motor. Extensive and prolonged spasm occasions intense suffering. Numbness, tingling, prickling and coldness of the surface; heaviness, aching, soreness, tenderness and stiffness of the muscles are the sensations most frequently described. In chronic cases secretory and trophic changes may occur—sweating, edema, pains and swelling in joints, loss of hair and nails. Isolated myotonic phenomena may be manifested and myotonia congenita (Thomsen's disease) simulated. Following or occasionally replacing the spasmodic seizures flaccid or spastic weakness of the lower extremities has been noted. Clouding and loss of consciousness are not infrequent in tetany of gastric origin. Psychoses have been described by Frankl-Hochwart. The relations of tetany and epilepsy are important and will occupy us later.

THE TESTS FOR MILD TETANY

From the study of mild cases during epidemics and of chronic cases following lesions of the parathyroids, or due to stomach disease, it is evident that, in addition to typical tetany with characteristic spasms, a number of latent, atypical or *fruste* forms exist that are only to be unmasked with aid of certain tests. These tests or signs depend on the increased irritability of sensory and motor nerves to mechanical and electrical stimulation. A knowledge of them is essential in diagnosis.

1. *The Trousseau Phenomenon.*—Trousseau found that by compressing the arm or leg of a patient with tetany, the characteristic spasms could be brought about at will. The phenomenon is best elicited by grasping the upper arm firmly, the thumb externally, the four fingers compressing the brachial plexus strongly against the humerus. Gradually, in positive cases, after an interval varying from a few seconds to four or five minutes, the forearm stiffens, the wrist is flexed and the fingers straightened and adducted. This sign is almost pathognomonic; the muscular contractions following pressure in hysterical individuals occur suddenly and do not bring the hand into the typical position. It depends, as Frankl-Hochwart has demonstrated from animal experiments, on mechanical irritation of the nerves and not of the blood-vessels, as was first supposed. It is a reflex phenomenon and may rarely be occasioned by irritation of more distant nerves.

I have examined several hundred patients for the Trousseau sign and have never found it apart from tetany. In January this year a man entered the University Hospital complaining of paresthesias and occasional severe pain in the extremities, with aching in the muscles, tenderness and intermittent cramps. The character of the muscular spasms and the presence of typical Trousseau and Hoffman phenomena determined the diagnosis of tetany.

2. *The Erb Phenomenon.*—This is perhaps the most characteristic of all tetany signs when present. The irritability of the motor nerves is greatly increased to the galvanic current, much less constantly to the faradic. Very weak currents cause tetanic contractions—even anodal opening or closing tetanus can be frequently demonstrated.

3. *The Chvostek Phenomenon.*—This depends on increased mechanical irritability of the nerves and is most readily demonstrated in the facial distribution. Frankl-Hochwart describes three degrees of irritability; in the highest grade (Chvostek No. 1) a tap on the facial nerve in front of the ear causes twitching in all the muscles supplied by it. In Chvostek No. 3 twitching of the muscles at the corner of the mouth alone occurs. Chvostek, junior, has recently emphasized the importance of this sign, first described by his father. Frankl-Hochwart, Schlesinger and others, without denying its value, have insisted on the fairly frequent occurrence in other conditions, especially neurasthenia, hysteria, tuberculosis.

4. *The Hoffmann Phenomenon.*—This is of much less significance in diagnosis. There is increased irritability of the sensory nerves to both galvanism and faradism and slight currents may cause tingling or pain. Chvostek, junior, has shown that the nerves of special sense may be in a similar state of hyperexcitability. The leg phenomenon recently described by Schlesinger and the methods of producing spasms of the hand by forcible abduction of the arms, thus stretching the brachial plexus, or evoking spasm in the feet by stretching the sciatic nerve by forcible flexion of the trunk on the thighs, are merely modifications of the Trousseau procedure. In a case seen recently the Chvostek and Erb phenomena were most marked, but the Trousseau sign could not be demonstrated. Extension of the leg on the thigh and forcible flexion of the thigh on the trunk caused spasmodic extension of the foot in equinovarus position—the Schlesinger leg phenomenon.

The above phenomena and the peculiar muscular contractions are identical in all forms of tetany. Following Frankl-Hochwart, it is usual to distinguish seven groups of varied etiology or associations.

THE FORMS OF TETANY

1. Idiopathic, professional or endemic tetany is seen most frequently in Vienna and Heidelberg, occurs most often in young men—particularly in shoemakers and tailors. I saw a number of cases in the clinics of Frankl-Hochwart and Chvostek in 1895 and 1896, but have failed to find any typical ones in California. As goiter is frequent with us the observation of Chvostek is interesting, that tetany rarely occurs in regions where goiter is endemic.

2. Tetany of gastro-intestinal origin is seen most frequently in connection with pyloric stenosis, but has been described with varied diseases of the intestines, gall-bladder, appendix and pancreas, after long-continued diarrhea, or associated with intestinal parasites.

3. The tetany of acute infectious diseases—typhoid most commonly—cholera, influenza, measles, scarlatina.

4. Tetany after poisoning by chloroform, morphin, ergot, filix mas, cocain, novocain, lead, phosphorus; organic intoxication as in nephritis. The experiments of Rudinger have important significance in this connection. Poisons such as atropin, morphin, tuberculin, mercurial salts and ether were injected into cats with no appreciable effect on their nervous system. When, however, the outer parathyroids were removed, after such injections, tetany developed in certain animals and increased electrical excitability of nerves in others.

5. The tetany of pregnancy, the puerperal period and lactation. MacCallum believes that the drain of calcium in lactation or for formation of the fetus in pregnancy may alone in certain cases be sufficient to cause tetany. If parathyroid insufficiency already exists tetany is all the more certain to occur. It has long been known clinically that women with chronic tetany (idiopathic thyreopriva) were subject to exacerbations during pregnancy and lactation. Vassale and Generali early in their important work on the physiology of the parathyroids (1896) noted that animals with partial parathyroidectomy, showing few if any symptoms of tetany, developed severe manifestations of the disease in pregnancy and the puerperium. The experiments of Erdheim, Pineles, Thaler and Adler have served to confirm and elaborate their observations. Vassale would refer considerable importance to parathyroid insufficiency in the production of eclampsia, and Zanfrognini is inclined to think he has seen good results follow administration of an extract derived from beef parathyroids.

6. Tetany following extirpation of the thyroid or, as we know now, of the parathyroids.

7. Tetany in association with other nervous diseases—brain tumors, syringomyelia.

In recent years the essential identity of symptomatology in the tetany of these different groups has sought explanation in a possible common cause—the insufficiency of the parathyroid glands. In 1880 the Swedish anatomist, Sanstroem, described certain small glands constantly to be found in the neighborhood of the thyroid and distinctly different from accessory thyroids; these he names parathyroid glands. This anatomic fact was confirmed by other observers, but was first vitalized by the brilliant experiments of Gley, who found that tetany following operations on the thyroid was due to loss of the parathyroids and not the thyroid. Vassale and Generali removed the parathyroids alone and left the thyroid uniformly producing tetany. From the work of these authors, of Jeandelize, MacCallum, Erdheim, Pineles, Biedl and a host of others it has been firmly established that tetany follows extirpation of the parathyroids in all animals. Tetany in man after thyroidectomy is no longer, therefore, attributed to loss of thyroid function, but to removal or injury of the parathyroids. Simple thyroidectomy leads to myxedema alone.

The etiologic unity of all forms of tetany on a basis of parathyroid insufficiency, first suggested by Jeandelize in 1902, has received the support of such investigators as Chvostek, Pineles and Escherich. Pineles has pointed out that not only are the common symptoms identical in the various groups, but that rarer ones, such as cataract, loss of hair and nails, epileptiform attacks observe the same rule. Frankl-Hochwart has shown that tetany of all varieties is subject to the same seasonal fluctuations; most cases occur in March and April, the flood tide being in March. Very few cases are met with in summer or fall. The fact that chorea is most common in the spring months is of interest in this connection. There is yet no satisfactory pathologic evidence that the various forms of tetany depend on parathyroid lesions. In Escherich's clinic Yanasse found hemorrhagic changes in the glands in thirty-three out of eighty-nine children who had presented tetanoid symptoms. MacCallum and Koenigstein reported proliferative cell-changes suggesting hyperfunction in cases of gastric tetany. Erdheim found the parathyroids perfectly normal in two cases and Opie could find nothing abnormal in a case reported by Kinnicutt. Chvostek has assumed circulatory disturbances with disturbed function as the cause of symptoms even without morphologic changes in the glands.

Although it seems to me premature to adopt the theory of parathyroid insufficiency as the cause of all the clinical conditions to which the name tetany has been given, the vital importance of the glands cannot too strongly be impressed on the mind of the clinician and the surgeon. The anatomic relations of the glands are best shown in these plates from Halsted and Evans and Ochsner and Thompson. "With great regularity these little epithelial bodies are situated on or very near the posterior border of the lateral lobe of the thyroid gland and more or less in line with an important landmark, the 'channel' of anastomosis between the superior and inferior thyroid arteries" (Halsted). The dangers in thyroid operations are chiefly from crushing or from interference with the blood-supply and the safest procedure would seem to be the "subcapsular" operation of C. H. Mayo, with very careful ligature of vessels as near the gland as possible.

Injury of the parathyroids at operation is not necessarily followed by fully developed tetany. In animals with apparent complete parathyroidectomy a peculiar slow cachexia has been observed. In partial thyroidectomy chronic nutritional and trophic disorders such as loss of hair, emaciation, changes in the teeth have been described. Halsted has given a graphic account of postoperative symptoms following thyroidectomy due to insufficiency of the parathyroids. Peculiar nervous states—anxiety, waves of numbness and paresthesias, prostration, depression, coldness of the skin, slight hard edema of the legs, arthritic pains, loss of weight—were noted during a long period of observation. Alarming symptoms of the earlier days after operation were relieved by large doses of dried parathyroid glands and the later condition of invalidism with its manifold distressing symptoms was almost entirely cured by subcutaneous administration of the parathyroid nucleoproteid prepared by Beebe. Halsted has proposed the names hypoparathyreosis or status parathyreoprivus for the condition. The readiness with which such states could be mistaken for hysteria or neurasthenia is obvious. As will be noted later they occur apart from operative injury to the parathyroids. They are the cases of "latent tetany," chronic tetany or tetanoid conditions described by Frankl-Hochwart, Chvostek, Schlesinger and others.

Lundborg has written most entertainingly of the relations of tetany to other spasmodic affections such as myotonia congenita (Thomsen's disease), myoclonia and paralysis agitans, and has referred them all to parathyroid insufficiency or hypoparathyroidism. On the other hand, he would regard myasthenia gravis and periodic myotonia as affections due to hyperparathyroidism—or dysparathyroidism. Chvostek has recently adopted this view of myasthenia gravis and Berkeley and Camp have seconded the hypothesis of Lundborg concerning paralysis agitans. R. L. Thompson, who compared the parathyroids from nine cases of Parkinson's disease with those of thirty-nine cases of individuals who died of other diseases, failed to substantiate such theory; he writes: "The parathyroid glands in individuals dying with this disease (paralysis agitans) present no change either in number, size, position, or histologic structure that would serve to distinguish them from the parathyroid glands in individuals dying from other diseases."

The exact manner in which parathyroid removal or disease gives rise to tetany is not yet determined. The present state of our knowledge is excellently reviewed in the recent article by Beebe in Hare's "Modern Treatment," from which the following quotation is taken:

> "We may summarize the present ideas in regard to this matter by stating that one set of investigators maintain that a deranged calcium metabolism is the origin of the disturbance, while others believe that it is an essential damage to the nitrogenous metabolism. McCallum and Voegtlin find that parathyroidectomy is followed by an actively increased excretion of calcium, amounting to a calcium diabetes. The evidence in favor of what may be called the calcium deficiency theory may be summarized as follows:
>
> 1. There is a low retention of calcium during the eclamptic period of gastric tetany, a condition probably similar to that of tetany parathyreoprivus (Cybulski, Pineles).
> 2. Surgical removal of the parathyroid gland is followed by an increased excretion of calcium, and the brain of an animal dead of tetany contains less calcium than is found in the brain of a normal animal (McCallum and Voegtlin).
> 3. Intravenous administration of a soluble calcium salt promptly relieves the symptoms of tetany parathyreoprivus.
> 4. The inactivation of the circulating calcium by means of intravenous injections of trisodic citrate is accompanied by muscular twitching and convulsions identical in character with those of tetany, and these may be relieved by the injection of soluble salts in sufficient quantity to restore the equilibrium (Sabbatini).
>
> The evidence in favor of the symptoms having their origin in a metabolic toxin may be summarized as follows:
>
> I. The symptoms have a central origin.
>
> II. Symptoms are shown best in young animals, and are more severe if the animal has been kept on a meat diet.
>
> III. The symptoms have close relation to certain clinical conditions which are accompanied by severe nutritional disturbances.
>
> IV. Gastric tetany is accompanied by severe metabolic disturbance, it has similar symptoms, and is promptly relieved

by intravenous calcium injections and by parathyroid nucleoproteid.

V. Bleeding, followed by intravenous infusion, relieves the animal, a procedure well suited to free the body from a circulating poison.

VI. Symptoms are promptly relieved by the injection of fresh parathyroid nucleoproteid.

VII. Injection of known simple poisons, such as ammonia and xanthin, produce symptoms which can be promptly relieved by the injection of calcium or strontium salts, similar to the relief obtained by the same means in tetany.

VIII. Parathyroid tetany has a deranged metabolism, accompanied by a large increase in the excretion of ammonia.

It is certain that the symptoms are caused by removal of the parathyroids and that they may be relieved by the administration of parathyroid proteid. For therapeutic purpose, the most effective method of administering the gland extract is hypodermic injection.

CLINICAL REPORTS

Case 1.—In February, 1906, a man aged 50 was seen in St. Luke's Hospital with severe gastric symptoms. There was a definite history of ulcer some ten or twelve years previously, with a period of comparative health following, and of vomiting attacks during the last two years. During the last six months the man had been in hospital several times with typical symptoms and signs of a greatly dilated stomach. Three or four quarts of material would be vomited at different times. Examination of the content showed free hydrochloric acid and sarcinæ. There was most marked gastric peristalsis. Operation was obstinately refused and therapy was limited to diet and lavage. Two weeks before the final examination the phenomena of tetany were looked for but not found. After leaving the hospital, the patient had several severe vomiting spells, and on the day previous to being seen, had a convulsive seizure which lasted some hours, and was succeeded by stupor. When seen there were typical spasms of hands and feet with involvement at times of the abdominal muscles and of the mouth and eyes. There was low delirium and no complaint of paresthesias or pain. The Chvostek and Trousseau phenomena were readily demonstrated. The seizures lasted a few minutes only and were repeated several times during the day. No vomiting occurred. The patient was given salt under the skin, thyroid extract by mouth and rectum, and bromid and chloral enemata. Stupor gradually deepened and death occurred forty-eight hours after the first seizure.

Case 2.—In April, 1907, a woman of 40 was seen in consultation because of attacks of vomiting severer than any of those to which she had been long accustomed. There was a history of indigestion dating back fifteen years. From the occurrence of severe pain in previous attacks and of blood vomiting, there was no doubt of a chronic ulcer as the chief cause of the condition. For three years she was known to have had pyloric stenosis and a dilated stomach. With careful dieting and stomach washing she had been fairly comfortable, but in the last month, had been losing weight and strength. The amount of material vomited was far in excess of what she had taken—as much as six quarts were collected in twelve hours. Previous examinations had shown hyperchlorhydria and constant presence of sarcinæ. In the past two weeks she had grown extremely nervous, had slept badly, had grown weak, and twice, after having the stomach washed and emptied of several quarts of stagnating content, had suddenly lost her sight, complained of general numbness and had lost consciousness. On examination stomach-splashing was elicited just above the pubes, the stomach outline was plainly apparent and waves of peristalsis rolled across the hypogastrium. There was a peculiar anxious, rigid facies that suggested examination for the phenomena of tetany. A history was elicited of painful cramps in the left leg and arm during the past month, and of numbness and tingling of the hands apart from the vomiting attacks. The Chvostek, Trousseau and Hoffmann signs were most marked and contraction of the abdominal muscles could be occasioned by percussing the epigastrium. There were no signs of organic nervous disease. The eye-grounds were normal. The thyroid was moderately enlarged. Operation was strongly urged, but was refused. The patient fell into the hands of a quack and died two months later.

Case 3.—A woman aged 31 was first seen April 5, 1905. She had facial erysipelas as a child and always had considerable nose and throat trouble. This, by the way, has an important bearing on thyroid disease. For five or six years vomiting had been frequent. The least nervousness would bring it on. Sometimes there was nausea but most often not. Two years previous there had been severe recurring cramps in the right hand and arm and she had to stop work as a bookkeeper on account of this and extreme nervousness. The past year there had been palpitation, trembling and sweating.

In 1901 curettage was done for painful and irregular menstruation, with relief for six months. In October, 1904, the patient was curetted again and this was followed by infection, with considerable pain about the appendix and up along the colon. Her first examination suggested a *fruste* form of exophthalmic goiter. There was a moderate goiter, marked tremor of eyelids, tongue and hands, Moebius' sign positive, pulse 90 to 100. One sister had a moderately enlarged thyroid.

After long observation it became apparent that she had a dilated ascending colon and cecum, due presumably to adhesions of the hepatic flexure, of gall-bladder or stomach origin, or possibly a result of infection following curettage. Under bromids and rest the thyroid symptoms disappeared. There was ptosis of the stomach with atony, ptosis of the colon, but very little displacement of the kidneys.

In August, 1906, Dr. W. I. Terry made an exploratory incision and found extensive adhesions about the hepatic flexure, with an acute kinking of the colon. There were some adhesions of the colon to the duodenum, but no gastric or duodenal ulcer was demonstrable. The adhesions were freed and nothing further done. Recovery was made eventful by persistent cramps in the thigh and calf muscles. No signs of tetany were elicited. The patient did not do well, and in October, 1907, signs of more serious stomach trouble became apparent. The stomach became dilated, the lesser curvature being 2 cm. above the umbilicus, and the greater curvature reaching into 2 or 3 cm. above the pubes. There was no visible peristalsis, but vomiting was more frequent and stomach tests showed stagnation. Free hydrochloric acid varied from 27 to 35, and total acidity from 47 to 65.

Under regular lavage, improvement took place for a time, but operation was demanded later by the continued vomiting, pain and malnutrition. Dr. Terry operated in February, 1908. There were dense adhesions about the hepatic flexure and pylorus, the stomach was greatly dilated and prolapsed, the transverse colon was long and hypertrophied. Adhesions were loosened and a posterior gastro-enterostomy done. Owing to encasing of the pylorus in adhesions a Finney operation was not deemed possible.

During the days following operation there was much vomiting, often of large amounts of greenish fluid. On the 17th another of these attacks occurred and stomach peristalsis was seen. Sudden loss of vision for a few minutes occurred next day. There was much complaint of general pain and aching in the muscles. On the 19th there was vomiting of 900 c.c. at one time and this was followed by an attack of faintness, numbness and tingling in the extremities. A stomach-tube, which was well borne up to this time, now caused great distress and a feeling of constriction in the throat, and its use was discontinued. On the 21st Chvostek and Trousseau phenomena were quite marked and there was a spontaneous spasm involving the hands, arms and feet. During the next three days these typical paroxysms of tetany were repeated several times a day. They seemed to follow vigorous peristalsis of the dilated stomach, which caused intense abdominal pain, or they were brought on by excitement or other emotion. In several seizures there was great distress in the chest, a feeling of constriction in the neck and throat, and rigidity of the muscles of the face. The vomiting continued and the patient was given large amounts of water in order to wash the stomach out without the use of the tube: food was discontinued by stomach and enemata of salt solution were given every four or six hours. As the attacks continued, treatment with parathyroid extract was begun, at first dried powder and later by hypodermics of an aqueous solution of the nucleoproteid from beef parathyroids. These extracts were prepared by the method kindly given me by Dr. McCallum. The use of the parathyroids seemed both to Dr. Terry and myself to have a distinct influence in controlling the attacks. After February 26 there were no spontaneous spasms, although there would be occasional complaint of paresthesias in the hands. Chvostek and Trousseau phenomena could be elicited on almost every examination.

It became apparent that the patient could not be kept alive under existing conditions and on March 1 an enterostomy was done by Dr. Terry in order to shunt out the stomach and permit of sufficient feeding. Consequent on the patient's removal to the hospital and the preparation for operation, spasms of the arms and feet returned. The spasms were much more marked in the left arm, as had been noticed a number of times previously. Operation was done under ether and it was interesting to note that during the operation, although reflexes were everywhere abolished, the rigidity of the hands persisted. Throughout the operation also, there was a rhythmic tremor in the interossei muscles identical with the tremor of Parkinson. There were four to six oscillations to the second and the movements of the fingers, when coming out from ether after the spasm had relaxed, were the same as in paralysis agitans. At the end of the anesthesia, the electric irritability of the hand muscles was tested both to faradism and to galvanism and found to be greatly increased. Unlike what is usually noted, there seemed to be the same increase of irritability to faradism as to galvanism.

As a precautionary measure, two or three doses of parathyroid extract were given subcutaneously and for a few days three hashed-up beef parathyroid glands were given through the enterostomy tube. For three or four days the patient did well, but after that vomiting occurred, there was great complaint of abdominal pain and it became apparent that there was regurgitation from the jejunum into the stomach. Despite the vomiting, considerable food passed into the bowel and marked attacks of tetany did not recur. There was still complaint of paresthesias and the Chvostek phenomenon could at times be obtained. The patient's general condition for a long time was miserable. She was unable to see well, but an examination of the eyes by Dr. Alexander failed to show cataract or fundus changes. Gradual improvement took place during April and May and the patient was able to go to the country. Death from drowning occurred the same summer through an unfortunate automobile accident.

It is interesting that the attacks of tetany came only after gastroenterostomy. Signs of it were looked for but never found until some days after the first operation. It is noteworthy in the history that severe cramps occurred after the first operation and that the patient had for years been subject to muscle cramps in different areas. The spasms seemed to be excited by violent peristaltic contraction of the stomach or by emotional disturbances. They did not seem to have any particular reference to the amount or character of the vomitus. After operation, although the vomiting continued, peristalsis of the stomach almost wholly ceased, and with this cessation the attacks of tetany disappeared. The toxic theory of gastric tetany would harly seem to be borne out by our observations.

Case 4.—In December, 1909, a man of 48 was seen on account of stomach symptoms dating back seven years. For three years distress, vomiting, pain and occasional blood vomiting had been the chief symptoms. Then he began to vomit large amounts occasionally and to notice residue from meals eaten days before. Since beginning the regular use of the stomach tube there had been comparative freedom from vomiting and serious attacks until the spring of 1909. He then grew very weak and nervous, was troubled greatly by numbness and twitching in the extremities, with spasmodic seizures involving the hands, feet and calf muscles. Two days before being seen he vomited and subsequently had numbness of the extremities and cramping of the hands and feet. Examination Dec. 10, 1909, showed a tremendously dilated stomach with peristaltic stiffening on tapping the epigastrium, and 1,000 c.c. were evacuated after an Ewald meal, with grape-seeds said to have been eaten three weeks previously; free hydrochloric acid 24, total acidity 104, sarcinæ numerous. The man was emaciated, weak and nervous. The Chvostek, Trousseau and Erb phenomena were all positive. Deep reflexes were increased. The thyroid was not enlarged. The urine contained a slight trace of albumin. After three days' preparation with lavage, salt solution by rectum and 4 gm. (60 gr.) calcium lactate daily by mouth, he was operated on by Dr. Stanley Stillman. A greatly dilated stomach with marked stenosis of the pylorus was found and a posterior gastro-enterostomy was done. Recovery from operation was uneventful, there were no signs of tetany when examined three weeks later and the man was well when last heard from six months prior to this report.

Three other cases of gastric tetany, with less typical symptoms, might be reported in detail if time allowed. In a woman of 28 seen in March, 1909, dilatation of the stomach resulted from duodenal adhesions following gall-bladder disease. Operation relieved the condition and tetany did not recur.

In a man of 50 seen in February, 1908, epileptiform attacks ended in stupor and death. At autopsy the stomach was found tremendously thickened but not dilated; there was pyloric stenosis of long standing.

A man of 40 was seen in consultation in January, 1910. There had been symptoms of a dilated stomach for two years and severe tetanic seizures had been occurring in the last month. The man was moribund when seen. No autopsy was obtained.

Gastric tetany was first described by Kussmaul. It is, on the whole, a rare condition. Fleiner, in 1903, collected reports of forty cases and reported eight of his own. Since 1903 there have been reports of about thirty additional cases. The condition is generally associated with ulcer of the stomach or duodenum, with resulting stenosis and gastric dilatation. Most of the cases have been with benignant stenosis, but several cases of carcinoma have been reported. Cases have occurred with stenosis of the duodenum due to pressure from a pancreatic cyst or following stenosis due to gall-stone ulceration or from stricture of the bowel lower down. Warbasse has reported a case of tetany due to foreign bodies in the stomach, with cure after removal of the offending agents. As a rule hyperchlorhydria has been found, but this is not at all necessary, as several cases have been reported with an acidity. All degrees of spasm may be noted and isolated muscle cramps should always suggest, when they occur in a patient with pyloric stenosis, with or without a dilated stomach, the possibility of latent tetany. It is necessary in these cases, to test the Trousseau, Chvostek and Erb phenomena. In the majority of cases, however, gastric tetany is of a severe type, is of bad prognosis and in a great majority of the cases reported the patients have died. In 1898 Mayo Robson reported several cases of gastric tetany in patients treated by gastro-enterostomy, and since then about thirty patients thus treated. The results are far more favorable than by any other method and it becomes our duty to urge operation in all cases.

As noted above, it has been attempted to refer gastric tetany, as the other forms of tetany, to parathyroid insufficiency or to calcium deficit, but practically all questions concerning gastric tetany still await solution. We do not know why some cases of pyloric stenosis, particularly those associated with dilatation of the stomach, are followed by tetany while the great majority of apparently similar cases never show any symptoms of the disease. It may be perfectly well that in persons with parathyroid insufficiency brought about in other ways, the added intoxication from the stomach is sufficient to call forth an attack. With removal of the stomach factor by operation the tetany is apparently cured. It would be interesting to observe such cases in future years and to see whether the tetany has actually disappeared or is merely latent. In women, pregnancy would be rather a crucial test of the completeness of the cure. It is worthy of note, as Frankl-Hochwart has indicated, that the gastric cases follow the general rule and are decidedly more common in the months from December to May. Of the cases above noted, one was seen in December, one in January, three in February, one in March, one in April.

Case 5.—A married woman of 41 was first seen Feb. 28, 1908. She had two children 19 and 13 years of age; a pelvic infection had followed the first birth. She had lived for years in malarial districts but remembers no infections except so-called grip in the spring of 1905. In September, 1905, without obvious cause she had an acute collapse and was for some weeks prostrated and without appetite. Gradually she partially regained her strength but in May and September, 1906, she had a repetition of what she called her severe attacks. These recurred about twice a year, usually in spring and fall, apparently without cause. They were characterized by general nervousness, prostration, loss of weight and appetite, indefinite gastric symptoms and peculiar paresthesias—prickling and tingling of the extremities and numbness that comes in waves and extends all over the body. With this numbness was associated a peculiar anxiety, a feeling of "goneness" and of dread. The important data on examination were an absence of the usual physical stigmata of neurasthenia or hysteria, slight signs in hair and skin of thyroid insufficiency, a decided soft enlargement of the thyroid gland, enteroptosis with a large atonic stomach and a dilated colon. The pulse varied from 90 to 96, there was slight tremor of the eyelids and fingers. Pressure on the arms in the attempt to elicit the Trousseau phenomenon caused disagreeable paresthesias in the ulnar distribution and a general numb feeling such as she had already described. Neither Trousseau nor Chvostek signs could be demonstrated. A year later the patient was seen again with approximately the same sensory symptoms. During one of the periods of exacerbation in January, 1909, typical spasms of the hands had occurred. In April, 1909, Trousseau and Chvostek signs were both positive. Considerable improvement had occurred from abstaining from meat, regulation of constipation, small doses of thyroid extract and frequent administration of calcium lactate. The tetany was more probably due to parathyroid insufficiency, associated with the evident goiter and slight thyroid insufficiency, rather than of gastro-intestinal origin.

Case 6.—A woman aged 45 was first examined March 22, 1909. She had always been subject to periodic headaches, evidently migraine. Her mother and mother's.mother had suffered from headache of the same type. Both parents died of tuberculosis and in childhood she had had suppuration of the cervical glands and glands had been removed by operation. In recent years there had been some distress in the right hypochondrium at times, much flatulence and marked constipation. There had never been definite signs of appendix or gall-bladder disease. A laceration during birth of her only child, now 25 years old, had been repaired eight years previously and since that time she had not been so well. There had been occasional attacks of cramps in the muscles of the back of the neck and of the legs. She thought that her muscles had always been unusually sore and tender and she had always been bruised easily. Since an attack of bronchitis in January, 1908, she had felt weak and tired mentally and physically. The periods had become irregular the last few months. The facies suggested myxedema, which further examination confirmed. There was a large fat pad at the nape of the neck and tender pads were prominent over the back, arms and inside of the knees. There were old scars beneath the jaw and along the anterior margin of the right sternomastoid. The tissues below the jaw and over the front of the neck were decidedly thickened. The thyroid gland could not be felt. The eyebrows and scalp hair were thin, the temperature subnormal, the voice slow and weak. The heart was moderately dilated; the urine contained a slight trace of albumin. The abdomen was lax and the colon dilated. The blood-count on two occasions showed a moderate secondary anemia, leukocytes 9,000 to 10,500, and a relative increase of mononuclear elements. There were no phenomena of tetany at this time. Under small doses of thyroid extract, 0.06 to 0.20 gm. (1 to 3 gr.) daily, she felt much better, headaches were less frequent and objective signs improved. Thyroid could not be taken in larger doses as it caused palpitation and dizziness. It was omitted in June and July, and in August, during a day of headache, there was numbness and tingling from elbows to the fingers followed by characteristic cramping of the fingers. On Aug. 31, 1909, there were strongly marked Chvostek and Trousseau signs. During the winter and spring of 1909-10, the attacks were controlled by occasional administration of calcium lactate, a diet without meat, and small doses of thyroid extract and arsenic. She went abroad in the summer of 1910 and took no regular treatment. On Sept. 21, 1910, she came complaining of a feeling of tension, aching and stiffness all over and not confined to the extremities as formerly. During the past weeks she had had painful spasms in the feet associated with arching and inversion of the foot. The Trousseau, Chvostek and Hoffmann phenomena were marked. The same night there were repeated severe attacks with general rigidity and contractions of the muscles of the abdomen, jaw and face. Under rest, diet, calcium lactate 4 gm. (60 gr.) daily for a week, and later on tablets of parathyroid extract, the attacks have been controlled. Her general condition at the time of writing is still far from good, however Weakness, nervousness and paresthesia are prominent symptoms. The Chvostek sign is still positive; Trousseau sign not obtained. The prognosis is grave. Hypodermic treatment with the parathyroid nucleoproteid or transplantation of both parathyroid and thyroid glands is contemplated in the future.

Two months since a woman was sent me for examination on account of protean nervous symptoms. The history of peculiar epileptiform attacks and the presence of a most marked Chvostek phenomenon suggested the possibility of tetany, and treatment with calcium salts was advised. Only continued observation will decide if such cases are really *fruste* forms of tetany or hysteria. During the month previous to making this report a girl of 16 had been under observation to determine the nature of epileptiform seizures that had been recurring during the previous two years. There was a history of loss of consciousness with some of the attacks. Those seen in hospital were hysteroid and not epileptic. Since the age of 16 there had been irregular motor phenomena—twitching and jerking, but no tonic spasms. In the hospital the Chvostek sign No. 1 was constantly present and the Erb phenomenon most marked. The Trousseau sign was not elicited, but the Schlesinger leg phenomenon was obtained. This would seem a case of tetany plus hysterical symptoms, rather than hysteria. Treatment with calcium salts and parathyroid extract is indicated. In this connection may be mentioned the frequent association of tetany and epilepsy; Dr. C. M. Cooper has recently reported an instructive case of this type. An article by Saiz[1] reviews the literature of the subject. We may recall that reports are accumulating which show apparent benefit in idiopathic epilepsy from treatment with calcium salts. Other spasmodic affections, blepharospasm and other tics, seem at times to improve under calcium or parathyroid administration. Berkeley has reported definite improvement in eighteen of twenty-six cases of paralysis agitans in which the patients were treated for long periods by small doses of parathyroid nucleoproteid prepared after the manner described by Beebe.[2] I have records of three patients with Parkin-

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1. Berl. klin. Wchnschr., Feb. 6, 1911.
2. Modern Treatment, i, 561.

son's disease treated for months with fresh beef parathyroids and of one patient treated with injections of the nucleoproteid. No influence on the disease could be determined.

PROGNOSIS

Prognosis in tetany will naturally vary according to the etiologic factors and to the severity and acuity of the seizures. Operative tetany has become rare since careful methods of thyroid extirpation have been adopted and due regard paid to the preservation of the parathyroid. In gastric tetany the mortality is still 50 to 75 per cent. With prompt control of severe attacks by calcium intravenously or by hypodermic administration of parathyroid nucleoproteid, many more cases may be brought to operation and permanently cured. Frankl-Hochwart, from a recent review of fifty-five cases seen ten to fifteen years before, concludes that the prognosis of the idiopathic tetany is not nearly so good as was supposed. Of the patients eleven died, seven had chronic tetany, nineteen had slight symptoms described as "tetanoid," six had myxedema; only nine remained well.

TREATMENT

In the treatment of tetany causal factors should be remembered. In children rachitis should be treated with phosphorus and cod-liver oil. In gastric tetany surgery must remedy the underlying mechanical conditions that are the cause of stagnation, dilatation and intoxication. Emotional disturbances, exposure to heat or cold must be avoided. Meat should be excluded from the diet. Milk is well tolerated and may be of advantage by reason of its large calcium contents. Moderate catharsis and diaphoresis, saline irrigations and the ingestion of large amounts of water may be of slight value in elimination of metabolic poisons. Formerly thyroid preparations were frequently given and apparently with benefit. Kocher has seen disappearance of tetany symptoms under thyroid and thyroid preparations. Frankl-Hochwart and others have seen no benefit from thyroid preparations; rather the reverse.

There can no longer be any question about the efficiency of calcium and parathyroid administration. In severe acute attacks, whether postoperative, idiopathic or of gastric origin, 3 to 5 gm. (45 to 75 gr.) of calcium lactate in 400 or 500 c.c. of normal salt solution should be given intravenously. The action of calcium on control of symptoms is evanescent and the dose may have to be repeated in twelve or twenty-four hours. The parathyroid proteid prepared according to the directions of Beebe is of equal value and should be given hypodermically, 1 c.c. of a 1 per cent. solution every three or four hours for two or three days and then less frequently. Good results from both calcium and the parathyroid proteid in chronic cases have been reported by Beebe, MacCallum, Halsted, Putnam, Poole and others. Dried extracts of the gland have proved less efficacious. Pal reported marked benefit from the use of pituitary extracts in a boy with severe tetany. Ott from experiments on cats concludes that pituitary extract given hypodermically is equal to calcium in the control of spasm. In man the 20 per cent. infundibular extract that is now on the market may be given intramuscularly 7 to 10 drops three times daily. Transplantation of the parathyroids may be of great service in the future in chronic cases of tetany. Christiani has transplanted parathyroids in rats and cats and found the grafts successful after periods of two to five years. Von Eiselsberg transplanted a parathyroid obtained during a goiter operation into the rectus muscle of a woman suffering from chronic tetany, the result of a total thyroidectomy that had been done twenty-seven years before. The tetanic seizures disappeared except for occasional slight spasms of the glottis and electrical irritability became normal.

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A REVIEW OF 542 CASES OF PROSTATECTOMY *

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Included in this study are all of the cases in which a total or partial prostatectomy had been performed previous to April 1, 1911, in St. Mary's Hospital. Four hundred and sixty-one operations were performed for benign hypertrophy of the prostate, seventy-four for cancer, and seven for tuberculosis. The relative occurrence of cancer and hypertrophy was about one in six. Cancer and hypertrophy were observed together in several instances.

Although we were unable to determine any specific etiologic factors in this type of hypertrophy, the cases under our observation differed in this respect from those reported by von Frisch[1] and others. We noted that the condition occurred twice as frequently in men living in the country as in those living in the city. Only a small percentage of them had ever had specific infection.

The greater number of these patients were operated on between the ages of 60 and 70 years. In the series of 542 cases, eleven were under 45 years, 105 were from 50 to 60 years, 268 were from 60 to 70 years, 131 were from 70 to 80 years, fifteen were over 80, and the ages of the remaining twelve were unknown.

Regarding the civil state: 417 were married, ninety-four were widowers and nineteen were single.

The average duration of symptoms before the patient came for operation was 5.96 years. Although we have not chosen our patients because they were good risks for operation and have operated on patients many times that we knew had lesions of vital organs, we have endeavored to operate only on patients whose specific symptoms were dependent on prostatic enlargement. In our experience it has not always been easy to determine this point.

The primary symptoms of mechanical obstruction at the neck of the bladder are frequency, burning, pain and tenesmus. The secondary symptoms are loss of appetite, insomnia, loss of strength and weight. These secondary symptoms may be caused by damming back in the ureters and pressure in the kidneys; or they may be caused by intoxication from the presence of residual urine. The symptoms are identically the same and are probably caused by the same factors which produce symptoms in patients having insufficient kidney elimination. It is then very important to determine whether the patient is suffering from renal insufficiency alone, or whether he is suffering from auto-intoxication resulting from absorption and interference with kidney function, which interference is caused primarily by mechanical obstruction of the enlarged prostate.

Thompson[2] and Guyon[3] state that 34 per cent. of men 60 years of age and over are affected with genuine hyper-

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] von Frisch, A.: Die Krankheiten der Prostata, Leipsig, 1910.

[2] Thompson: Quoted from Die Krankheiten der Prostata by von Frisch, Vienna.

[3] Guyon: Quoted from von Frisch.

trophy of the prostate, and in only 16 or 17 per cent. are symptoms present. It is not unusual in routine examinations to discover a very decidedly enlarged prostate which is not producing obstruction to the urinary flow.

If a catheter be introduced into the bladder and but a slight amount of residual urine be found in a case having marked secondary symptoms without great difficulty in voiding, we may expect little or no benefit from a prostatectomy, no matter how great the tumor's size. Moreover, in such a case, we would operate with great risk. On the other hand, if a great quantity of residual urine is obtained with the catheter (and atony is excluded) the case is one for prostatectomy, even though the tumor be small.

During the past few years we have not only been able to reduce our mortality materially, but have secured a more satisfactory convalescence and better results by spending a little more time in preparing these patients for operation. With a permanent catheter in the urethra or through a suprapubic stab wound we place the patient in the same condition, so far as emptying the bladder is concerned, as he will be after the prostate is removed. In other words, we divide the treatment into two stages, relieving the secondary symptoms first. This will enable the patient to eat, drink, sleep and improve generally in health. We have observed that these patients drink very small quantities of fluids in order to diminish the amount of urine, as a great deal of suffering is caused in voiding. Their arteries are hard and inelastic, and if we allow the condition to prevail it will be difficult to fill up the circulation; therefore, we encourage the patient to take a great quantity of fluid for several days, which fills the circulation and throws the kidneys into marked activity.

It is interesting to note that in almost every instance in which there was any quantity of residual urine, by the introduction of a permanent catheter the specific gravity became much lower within a few days. We have frequently seen it change from 1020 to 1008 or 1009 within a short time. An operation should not be performed until this reaction has taken place and the specific gravity has risen, which may occur in from one to several weeks. Thus the effect of the prostatic enlargement is overcome before the cause is removed.

In determining whether or not to operate for enlargement of the prostate we should consider first the specific symptoms dependent on the enlargement from which the patient is suffering at the time. These symptoms, according to Freyer,[4] may be tabulated as follows:

1. There may be from 3 to 15 ounces of residual urine and the patient not using a catheter.
2. Extreme over-distention and dribbling.
3. Retention from time to time.
4. Ability to void some urine although the patient is obliged to employ a catheter to obtain rest and comfort.
5. Entire dependence on catheter.
6. Complete retention.

As a rule it is not advisable to operate if there be only two to three ounces of residual urine and only slight symptoms. This condition may exist for years without becoming worse.

One-fifth of the patients who presented themselves for operation were using a catheter either all of the time or occasionally. Nearly four-fifths of them had used a catheter at some time during their trouble. Eighty-one (15 per cent.) in the series had had a recent acute retention.

The cystoscope was not often used in prostatic cases as a means of diagnosis when it was first introduced. Within the past five years, however, we have employed it in over 95 per cent. of our cases and have found it of the greatest value in differentiating between tumors, cystitis, diverticulæ, in determining the presence of stones and in selecting the type of operation for a given case.

The perineal operation is the one ordinarily chosen because usually, a shorter and easier convalescence follows this method. But if the cystoscope shows a stone of any size in the bladder, if the median and lateral lobes are enlarged so as to make an intravesical tumor, or we are not able to reach the upper border of the gland with a finger in the rectum, we do a suprapubic operation.

The mortality in these cases is not affected by the type of operation. The suprapubic sinus, as a rule, requires a longer time to close, although the control is absolute from the time the urine is first voided through the urethra. The suprapubic operation is less likely to be attended with the painful complication, inflammation in the epididymis or testicle. The rectum has not been injured in any of our operations for benign lesions.

Of the 532 cases of which we have complete records, 323 were perineal operations for benign hypertrophy; twenty-five of these had stones in the bladder also. Fifty of the series were perineal operations for carcinomata. One hundred and forty benign cases were done by the suprapubic route; forty-one of these were associated with stones. Nineteen carcinomata were removed by the suprapubic route; two of these cases had stones in the bladder. Stones were present in 12.7 per cent. of the cases.

Closure of the urethral orifice is cared for in the first place by the smooth sphincter internus muscle which remains in a condition of constant tonus. This tonus must relax when there is need to void urine, and then comes the effect of the detrusor muscle.

The functional result, referring to the power to retain the urine after operation, is almost as important as the question of mortality. We rarely see patients with complete incontinence and consequently obliged to wear a urinal who can be kept at all comfortable, and many times they are much worse off than they were previous to the operation. Both the external and internal sphincters at the neck of the bladder must play some part in the control. In a case reported by Freyer (an autopsy following a suprapubic operation) the vesical sphincter was greatly dilated, yet there had been no incontinence. We know also that frequently after the tube has been removed following a perineal operation the patient has control by means of the internal sphincter before the perineal wound has become healed.

If the case be not complicated with cystitis, in most instances the symptoms will be entirely relieved by the removal of the obstruction, and it is not unusual for a patient to pass an entire night without voiding urine. We must bear in mind that a polyuria exists in these cases and that the intervals between emptying the bladder will increase as time elapses.

We have been able to trace 90 per cent. of our patients and nearly all of them report that they are absolutely relieved from pain. A number of patients operated on had partially lost control before there was any interference. Two of these patients, operated on by the suprapubic method, regained control after the operation. Two other patients in whom the same operation had been done were not relieved of this symptom. We have had no patients with incontinence following the suprapubic operation for benign hypertrophy. There were two patients in whom the suprapubic operation was done for cancer, who had good control for some time after the operation, but who gradually developed an incontinence on recurrence of the old trouble. The presence of a stone in the bladder may be the cause of dribbling.

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[4] Freyer: Lancet, London, 1909, i, 1235-1238

In practically all of our perineal cases we have done the infra-urethral operation through a median incision, being careful to preserve all of the prostatic capsule, especially in the region of the neck of the bladder. It has seemed to us most important to preserve the capsule, but not so important to save the elongated and distorted prostatic urethra. Seven perineal patients had some degree of incontinence, some of which had been dribbling for some time before operation. Three had old specific histories, though there was no evidence of the specific trouble at the time of operation. Besides these, there were eleven patients in whom the retentive power was not strong, but who were able to retain several hours before starting to dribble. Some of them had more difficulty in holding urine when lying down, while others could keep perfectly dry in bed, but would leak a few drops as soon as they got up. Several of the patients did not have good control immediately following the operation, but regained it in a few weeks.

To aid in recovering control we have employed the exercises suggested by Alexander and found them of great value. The procedure consists in filling the bladder and, as soon as dribbling begins, the patient is allowed to pass part of the fluid, holding the remainder as long as possible, then passing more, and so on until the bladder is emptied.

Ten patients report that it is occasionally necessary for them to use a catheter. In most instances this is not due to a mechanical obstruction, but the inability of the bladder to empty itself because of stretched muscle.

Seventy-four cases of carcinoma of the prostate were operated on, in most instances removing only a part of the gland. The immediate result has been quite as good as the results in benign cases. One patient is alive and comfortable four years and a half after the operation; one has lived over three years; four two years and six over one year.

Operation in these carcinoma cases should be advised only when obstruction and bladder symptoms exist. If the patients complain of radiating pains through the pelvis and back, in all probability the operation will not relieve them. We have observed seventy cases clinically diagnosed carcinoma of the prostate on which, for the above stated reasons, it did not seem advisable to operate. Two of these patients lived over four years with more or less discomfort and gradually increasing symptoms.

The average time required for a fistula to heal in perineal cases is twenty-one days. The average time in suprapubic cases is forty days. In our suprapubic cases three persistent fistulæ remain; in the perineal cases there were six fistulæ, although four of these healed and remained so for some time and then opened again.

Epididymitis and orchitis have seldom occurred except in patients having had previous attacks. This complication has been more common following the perineal than following the suprapubic operation.

In fourteen cases in which there was considerable infection at the time of operation or in which there had been previous attacks of epididymitis, just before doing a prostatectomy an incision was made through the base of the scrotum, pressing the vas deferens through, then severing and ligating the cut ends. This procedure only adds a few minutes to the operation. In none of these fourteen cases has there been any lighting up of the old trouble in the epididymis or testicles.

Fourteen of the 542 patients have returned on account of the formation of stones in the bladder following removal of the prostate. Two have returned a second time.

Sixty per cent. of this entire series are living and enjoying reasonably good health. Of the eighty-one patients who have died since leaving the hospital, thirty had carcinoma and twenty were reported as having been well for some time and then dying of other trouble. Twenty-nine died from kidney lesions at some time before the end of the second month. Autopsies were performed in nearly all of the twenty-nine cases and in each instance there was evidence of old infection or nephritis and acute nephritis superimposed.

This data would indicate that a great many if not all of these old men already had some sort of interference in kidney function. This impaired working ability should be interfered with as little as possible.

We consider that the treatment preliminary to operation is the most important factor which has entered into our work on these cases during the past few years. While it is not always necessary to employ a permanent catheter in the treatment, at the same time by its use we are able to eliminate from our mortality list a goodly percentage of the cases that previously had died from kidney changes.

ABSTRACT OF DISCUSSION

Dr. Archibald MacLaren, St. Paul: I recall some deaths that occurred during my early experience, wherein I did not recognize the danger from damming back of the urine and the infection of the kidneys, the post-mortems showing that the operation should not have been done at that time, if at all, on account of pyelitis, nephritis and shock.

The proposition that Dr. Judd makes regarding drainage is very good. I have seen him place a suprapubic catheter through a cannula and it is a very pretty aid in helping to clear up these cases, so that we can watch the patients and find out whether they ought to have any operation.

The common error in all of these cases has been, to my mind, surgical snap judgment, not taking time enough to work out their surgical possibilities.

Recently I removed a large obstructing prostate through the perineum in a man of 70, and he stood the operation so well that before he left the hospital I repaired a bad inguinal hernia which he could not control with a truss; and at that time in exploring the abdomen I found that he had a carcinoma of the large intestine which had never produced obstruction or bleeding. I did not know then and I do not know now how I would go about it to avoid making this same surgical error again.

I believe that Dr. Judd takes the only rational position in regard to the kind of operation. No single surgical method of attack is suitable for all cases. The decision between the suprapubic and the perineal operations ought to be settled by careful cystoscopic examination in each case. In my experience the mortality and the immediate results of the two operations are practically the same.

There is another type of case than the ones described by Dr. Judd, which I have never seen mentioned; and indeed I have never seen but one case myself. In this case the man had a partially controllable, overdistended, leaking bladder. He could urinate about every hour and a half, passing a couple of ounces. In his lower abdomen he had a large irregular tumor which had been under observation by two excellent men for over six months. This man was supposed to be suffering from a malignant tumor of the lower abdomen. I never got quite so nearly caught in my life as on this man who had never been confined to his bed for nine months. He had never had a catheter passed into his bladder. The gradual catheterization and later prostatectomy proved a perfect cure even with potency, which was a very important element so far as his judgment went.

I feel that the so-called conservative operation for carcinoma of the prostate should be very carefully considered. I believe that Dr. Judd will tell you that many of these cases of carcinoma were not diagnosed, perhaps, before the operation; but if a large, hard tumor of the prostate can be determined by the finger to be a carcinoma of the prostate, I doubt very much whether many of them ought to be operated on, in spite of Dr. Judd's proposition. Recently I sent a man, not to Dr. Judd, but further east, who had a conservative operation for carcinoma of the prostate. He came home in three weeks and almost immediately had the most terrific hemorrhages into his bladder. He was much more uncomfortable; his life was shortened. I believe that if these people can be taught the intelligent use of the catheter it will be much better for them than to undergo an operation, when only a part of a cancerous tumor is removed.

Dr. Granville MacGowan, Los Angeles: Not all of us can have great hospital facilities like the Mayos, and are compelled to operate without them; and we do not have such unusually competent laboratory assistants to examine our pathologic specimens. Consequently any statistics we might give with regard to the number of cancers found among the prostates we have removed, would not have any value. I am satisfied to accept as a standard the statistics prepared at St. Mary's and Johns Hopkins.

After an experience of twenty years in these operations, which very closely approximates Dr. Judd's figures in total number, I am frank to confess that I frequently cannot tell by my finger in the rectum, whether or not a man has cancer of the prostate. If there is much induration extending out along the seminal vesicles and including one or both of them, or the rectum is bound onto the prostate, I am satisfied that I am dealing with a cancer. If there is an ulcerative condition in the posterior urethra which can be seen through a large straight urethroscope, and it appears hard to the eye and is unyielding when touched with a swab, or if by a cystoscope or a straight urethral tube one can see similar ulcers at or within the neck of the bladder on projecting prostatic lobules, there is but little doubt that the condition is cancerous; but I have been deceived more than once when all these conditions were present.

I agree perfectly with Dr. Judd in regard to the necessity of preparing patients when there is polyuria, low specific gravity, low output of urea and symptoms of pyelitis. When the blood-pressure runs from 160 to 220, a similar need for preliminary preparation exists.

I know it is not necessary, and believe it is highly injudicious and cruel, to get a man out of bed in two or three days after operation.

You need not hurry in removing a prostate, any more than you need hurry excessively about any other form of operation. Take whatever time is necessary to complete what you started out to do. The old man who has placed himself in your care expects to urinate with ease, and he wants to empty his bladder and have his nightly rest; and you have no right, by operating on him against a split second stop-watch, to leave a portion of his prostate to obstruct and continue the condition in which he came to you. I have never seen a case of pneumonia following a prostatic operation. I think the fear of pneumonia is a bogey in these cases. I never insist on my patient getting out of bed, until he is satisfied to do so and can move comfortably, and an extremely low percentage of fatalities justifies me in this course.

Dr. Charles D. Lockwood, Pasadena: I have done something like sixty prostatectomies in Pasadena, and there are one or two points that I want to speak of in connection with the operation.

1. As to hemorrhage. Dr. Judd did not speak of hemorrhage as a complication. The two patients that I have lost have died of hemorrhage, one a perineal, and the other a suprapubic operation, and I have had one patient whom I nearly lost from hemorrhage coming about the seventh day after operation. I have noticed that these men who heal up very quickly (this man healed so that he could pass his urine on the seventh day) are more likely to bleed than those who heal more slowly.

2. As to epididymitis, this has been a rather frequent complication with me, and I have noticed that it came on when I used a sound early. I was in the habit of passing a sound when I would remove the tube on the sixth or seventh day. Since I have abandoned that practice, epididymitis is rare. But I have had one case that occurred on the day the man began to pass his urine, and I think that is the time we are most apt to get epididymitis.

I believe too much emphasis cannot be laid on the necessity of preliminary treatment in these old men with distended bladders and with low vitality.

Dr. Edward Starr Judd, Rochester, Minn.: Dr. MacLaren stated that he did not believe it advisable to operate in all cases of carcinoma of the prostate. It was not my intention to convey the impression that we always advised operation. In a great many cases of hard carcinomas, as Dr. MacGowan has described them, which we run across in doing routine examinations, in which there had been no troublesome symptoms, nothing could be accomplished by doing a partial prostatectomy. But in the cases of carcinoma in which we have operated the patients came for treatment on account of obstruction to the flow of urine, and by removing a portion of their prostates we can relieve them of just those symptoms. As I have stated we have had something like seventy cases that were diagnosed as carcinoma in which we did not advise operation, because a good many of these patients complained not so much of the symptoms of difficulty in voiding urine, as of pains radiating around the back and down the sciatics. Very possibly a good many of them already had metastatic lesions in the lumbar vertebræ or some of the other bones. Dr. MacGowan says he is not always able to diagnose carcinoma of the prostate. Of our seventy-four cases of carcinoma, sixty-five were referred to us for carcinoma; nine cases were supposed to be benign and turned out to be malignant after microscopic examination.

Regarding the point of hiccup we have always considered that an evidence of insufficient kidney elimination; when the patient begins to hiccup it means that he is not eliminating. We were usually able to relieve that condition by sweats and increasing the amount of fluids. I do not know the exact percentage of cases in which we have observed this symptom.

SHORTENING OF AN OCULAR MUSCLE BY TUCKING *

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JOLIET, ILL.

The literature of operations designed to increase the power of ocular muscles contains descriptions of more than fifty methods. All of these may have served and many of them may be still serving their originators and others in the field for which they were designed.

It must be difficult, however, for the inexperienced operator to select from this number the one which will best serve his purpose. Naturally, in making his choice he should be guided by the following considerations: First, the safety of the method; second, its effectiveness, immediate and permanent; third, the cosmetic result; fourth, ease of performance; fifth, period of convalescence.

All these operations may be divided into three classes: First, those in which a new insertion is made nearer the cornea (the advancement operation proper); second, those in which the muscle is shortened but the natural insertion preserved, as (a) the tucking operation and

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

(b) resection of a portion; third, those which are intended both to resect and to advance. This is the method most frequently employed. The consideration of these methods is still further complicated by the fact that the muscle alone may be dealt with, or the muscle together with its overlying capsule or muscle, capsule and conjunctiva together. None of these operations is generally considered unsafe, certainly not by the originator. There is, however, a real danger in any operation in which the attempt is made to secure an artificial insertion nearer the cornea, whether the tendon is resected or not. Those methods in which the conjunctiva is advanced or resected have the further disadvantage of leaving more or less permanent disfigurement at the site of operation.

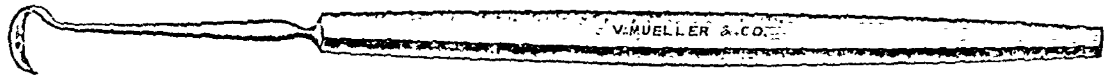

Fig. 1.—Needle for the insertion of suture in the muscle.

SUMMARY OF LITERATURE

Howe,[1] in describing advancement operations, says:

> One of the greatest difficulties in all these operations is that they require the anchorage to be made in what is usually described as the "episcleral tissue," but in reality these sutures are seldom or never in the episcleral tissue only. They are either in the conjunctiva, which is elastic and easily torn, or the needle enters the sclerotic itself. That layer near the cornea is only about 1 mm. thick. The smallest needles are usually more than 0.5 mm. thick, including the curve, and with a good thread such a needle, near its eye, measures often from 0.6 to 0.8 mm. If we use a larger needle it either does not penetrate the sclerotic or, if it does so, it is at the risk of passing through into the ciliary region.

Howe further relates the following incident:

> The danger of attempting to anchor the stitches in the episcleral tissue was once impressed on me by an accident which might occur to any one. The operator, at that time one of our leading colleagues in Berlin, was making an advancement.

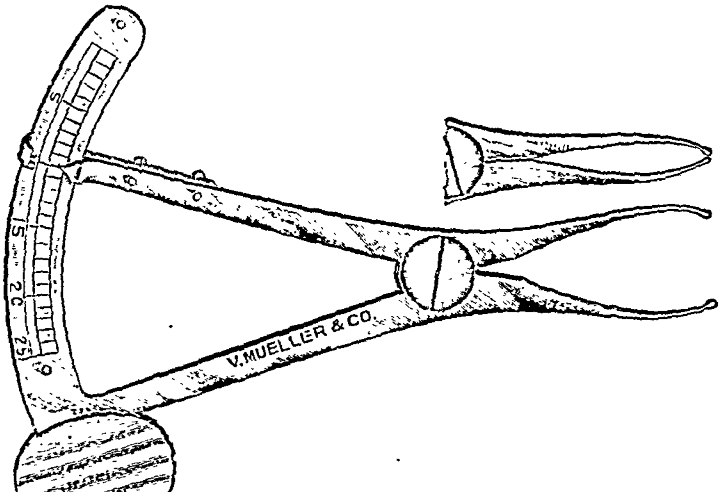

Fig. 2.—Author's strabometer.

> and on passing a small needle through this episcleral tissue the needle broke. The rough end of the part in the globe could be felt only as a point. It could not be extracted by the cilia forceps nor in any similar way. After many efforts, it was necessary to abandon the original operation, to make an incision which opened the globe, and even then the fragment could be found only after careful search for a long time.

I have seen one case of sloughing of the sclerotic, two of perforation of the sclera, and two in which the caruncle was drawn toward the cornea.

R. Wirtz[2] reports a case of phthisis bulbi following an advancement operation, as a result of suppuration of the cornea in a patient just recovered from an attack of angina.

In a discussion of a paper by Dr. Callan[3] before the American Ophthalmological Society, in 1908, Dr. David Webster stated that following the advancement operation he had seen one eye lost by panophthalmitis, three or four cases of corneal ulceration and on more than one occasion the operator's needle had entered the anterior chamber.

Dr. Warwick Cowgill[4] reports a case of ulcer of the cornea following an advancement operation in which there was no injury to the cornea. He attributes the ulcer to the reduction of corneal nutrition from the severing of the conjunctiva and the pressure of the anchoring suture. The eye was preserved but with a leukoma occupying one-fifth of the corneal surface and extending to its center.

Jackson says:[5]

> *A large part of the difficulties* regarding advancement operations arises from the character of the tissue dealt with. The conjunctiva and subconjunctival tissue being extremely loose, easily dragged away from their normal position and readily cut by sutures, offer a poor anchorage for supporting sutures.
>
> . *On the other hand, the firm tissue of the sclera* offers an ideal anchorage for sutures. The objection to its use is the risk of perforating the whole thickness of the sclera and opening a channel for infection to the interior of the eye-ball. . . Even with care and in competent hands it is likely that *complete perforation* of the sclera is not very rare. Cogan, passing sutures in pig's eyes, found the sclera perforated in half of them.

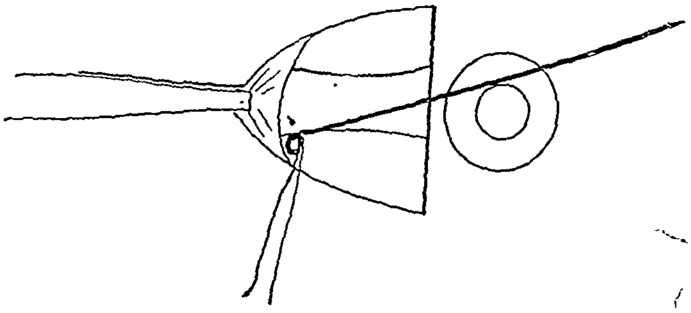

Fig. 3.—Showing method of inserting suture in the muscle border.

H. D. Noyes,[6] referring to deep anchorage at cornea sclera junction, wrote: "I have seen the needle points sometimes appear in the anterior chamber."

My chief criticism of the so-called advancement operation, however, is the insecurity afforded the sutures in muscle and in sclera. Beard says:[7]

> A great deal has been said about the advantage of this or that advancement procedure in that the arrangement of the suture or sutures in the tendon tends to prevent its cutting out. From an abundant experience with his own method both as performer and onlooker, the writer has long since come to *the conclusion that* it is far easier for the average surgeon to obtain a firm hold for the thread in capsule and tendon *than in the globe*.

The reason serious accidents do not follow the advancement operation oftener is that the operator, erring on the side of safety, prefers insufficient anchorage to perforation of the sclera.

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[1] Howe: Muscles of the Eye, ii, 350.

[2] Wirtz, R: Ztschr. f. Augenh., January, 1910.

[3] Tr. Am. Ophth. Soc., 1908, ii, Part 3.

[4] Cowgill, Warwick M.: Ophth. Rec., x, 3.

[5] Wood, C. A.: System of Ophthalmic Operations, i, 734.

[6] Noyes, H. D.: Text-Book on Disease of the Eye, p. 172.

[7] Beard: Ophthalmic Surgery, p. 203.

The authors of the various advancement operations claim ease of performance, and it is difficult for one to judge by description alone as to this point. None of them is as simple as tenotomy and for this reason one is often tempted to cut the stronger muscle when his better judgment tells him that the weaker should be strengthened. One of the strongest claims for the advancement operation has been that the muscle takes its attachment alone from the new insertion, thereby increasing its power very much. Müller[8] has pointed out that the only effect of advancement is to shorten the muscle, for the advanced muscle probably grows fast to the bulb along the entire interval between the side of the wound and that of the old insertion and does not unwrap itself from the globe even in extreme rotation. Hence the advanced muscle is practically inserted at the site of the original tendinous insertion.

Froelich says:[9]

> If the end of an ocular muscle is transplanted over its natural insertion toward the cornea, the inner surface of the advanced muscle grows fast to the outer surface of the sclera. This was shown in the following case: A young man needed a readvancement of his right external rectus which had been advanced some years before. The conjunctiva was undermined outward from the scar at the margin of the cornea, so as to lay bare the dark red muscle which had to be separated from the sclera with scissors. The attachment was firm and extended exactly to the physiologic insertion, beyond which the relations between the muscle and sclera were normal.

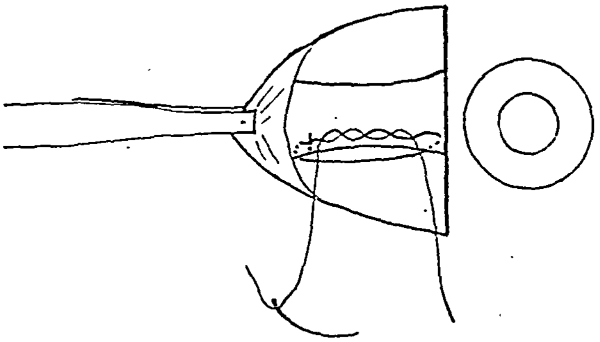

Fig. 4.—Illustrating method of tying the Worth suture.

In the same article, Froelich further says:

> The usual explanation of the effect of an advancement is that because the advanced muscle girdles the globe to an extent increased by the distance between the original insertion and the margin of the cornea, its efficiency is increased so as to enable it to produce greater motility of the eye-ball. But this is not the true explanation as I demonstrated in the following way: During the advancement of an external rectus of a leukomatous eye, I measured the distance of the insertion from the corneal margin with a pair of compasses. Frequent measurements of the excursions of the eye were made during the next six weeks, and at the end of that time I made a curved incision 1 cm. long, parallel to the line of insertion, down to the sclera, at the distance from the cornea previously determined. This incision completely isolated the transplanted end of the muscle from the rest, and yet the efficiency of the muscle was not in the least impaired. This showed that after the operation the anatomic insertion still formed the point of termination and insertion of the muscle which had been shortened by the portion advanced and thereby rendered more able.

Jackson says:[10]

> It has been assumed that an advancement operation causes the tendon of insertion to form a new attachment to the eye-ball at its anterior extremity, and to act on this attachment as it did on the original insertion. It is on this assumption that the beautiful demonstration of the superiority of advancement over tenotomy of Landolt and his followers has been based. But the writer's experience in secondary operations agrees with that of others to indicate that the advanced tendon does not become attached to the eye-ball simply by its anterior extremity, but rather that the attachment extends at least as far back as the original insertion of the muscle and sometimes farther.

It is evident, then, that other operators have recognized these disadvantages as indicated by the history of the tucking operation. It is supposed to be the result or rather the outgrowth of the operation of de Wecker who first advanced the muscle without severing the tendon. Since then various operations have been described by Lagleyze,[11] Savage,[12] Suffa,[13] Bourgeois,[14] Maxwell,[15] Clark,[16] Bruns,[17] Green,[18] Todd,[19] Levinsohn,[20] Briggs,[21] Valk,[22] Colburn,[23] Suker.[24]

These methods vary in the manner of making the tuck, insertion of the sutures and the use of special instruments or tuckers. Some make the fold on the distal side of the tendon insertion and some on the proximal side. These latter do not differ in principle from the de Wecker method. It being necessary to suture to the sclera, the only advantage over advancement with severance of the tendon is that if the suture tear out the result can be no worse than at first.

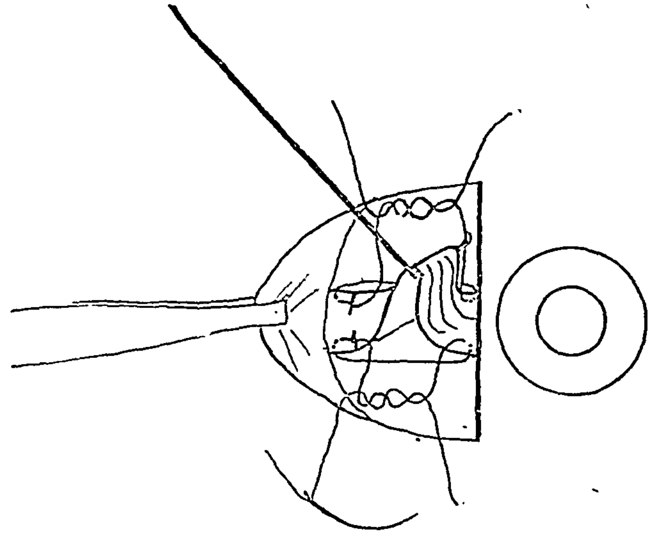

Fig. 5.—Portion of the muscle held up on a strabismus hook which becomes the tuck when the sutures are tied.

TECHNIC

My experience with the tucking operation began about nine years ago at the Illinois Eye and Ear Infirmary. My favorite advancement operations at that time were of Worth and Wooten and, in what I will call the simple tucking operation, I have retained the important features of each. At that time, Dr. Henry Boettcher sug-

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8. Müller: Klin. Monatsbl. f. Augenh., xxxi, 127.
9. Froelich: Arch. Ophth., xxxiv, 622.
10. Wood, C. A.: System of Ophthalmic Operations, i, 736.
11. Lagleyze: Arch. d'opht., 1892, xxii, 668.
12. Savage: Ophth. Rec., March, 1893.
13. Suffa: Arch. f. Ophth., 1910, xxxviii, 254.
14. Bourgeois: Bull. et mém. de la Soc. franc. d'ophth., 1906.
15. Maxwell: Brit. Med. Jour., 1896, ii, 819.
16. Clark: Tr. Sec. on Ophth., Am. Med. Assn., 1900, p. 164.
17. Bruns: Ophth. Rec., 1904, p. 267.
18. Green: Ophth. Rec., 1899, p. 462.
19. Todd: Ophth. Rec., 1902, p. 73.
20. Levinsohn: Klin. Monatsbl. f. Augenh., September, 1909, p. 299.
21. Briggs: Tr. Am. Acad. Ophth. and Oto-Laryngol., 1908, p. 212.
22. Valk: Post-Graduate, July, 1895.
23. Colburn: Ophth. Rec., April, 1902.
24. Suker: Am. Jour. Ophth., May, 1904.

gested trying Todd's new tucker and we performed a number of operations according to this method, finally doing away with the tucker. At the March, 1910, meeting of the Chicago Ophthamological Society,[25] I showed six patients who had been operated on for strabismus, and described the operation. Since then, I have still further demonstrated the fitness of the operation, and have derived considerable satisfaction by the use of the special needle shown in Figure 1, suggested to me by Dr. Tivnen, and by a pair of compasses (Fig. 2), by the use of which an approximate idea of the relationship between the amount of tucking and angle of correction may be obtained. This strabometer is graduated in millimeters. On the back of the scale is a cog which slips into a depression at every millimeter and rests there securely. This arrangement is the same as that on the ophthalmoscope and was suggested by Dr. Schneider of Elgin. Also, during the year I succeeded in correcting divergence of 65 degrees by double tuckings of the interni with tenotomies of the externi, securing binocular single vision.[26] This patient was shown at the December, 1910, meeting of the Chicago Ophthamological Society.[27]

TECHNIC OF OPERATION

The operation is now performed as follows: Local anesthesia is secured by the injection of from 20 to 30 minims of a 1 per cent. solution cocain with 5 minims of epinephrin solution added beneath the conjunctiva over the site of the muscle. The resultant swelling is massaged until it has almost disappeared. A vertical incision is made through the conjunctiva only, over the site of the tendon insertion about 15 mm. in length. The flap is dissected up from the underlying capsule as far back as 15 or 20 mm. While this flap is held out of the way by an assistant, the capsule is incised along the upper border of the tendon as far as the conjunctival dissections. A similar incision is made along the lower muscle border. Formalized pyoktanin catgut No. 00, is inserted into the muscle by the use of the needles shown in the cut; these needles resemble aneurysm needles on a small scale. It is simply necessary to pass the needle point through the muscle border (Fig. 3) about one-quarter of its width drawing the thread through with the forceps. The suture is firmly tied in a double knot and one end threaded through an ordinary curved needle is again passed through the muscle posterior to the knot from without, inward, according to Worth[27] (Fig. 4). This suture which lies next to the sclera is passed through the tendon at its insertion from below upward or rather forward. A similar suture is placed in the upper muscle border. When these two sutures are tied, the tuck is formed in muscle and capsule, and the muscle correspondingly shortened (Fig. 5). The conjunctival edges are then brought together with silk. The eye operated on alone is bandaged.

RESULTS

1. The highest degrees of strabismus may be corrected by tuckings with tenotomies of the opposing muscles.

2. Torsion is prevented by measuring the distance from the tendon insertion back to the point of entrance in the muscle and making both upper and lower correspond.

3. The method of tying the suture in the muscle prevents its splitting the muscle fibers while traction is made on it and when tied to the tendon insertion it is a physical impossibility for the muscle to become loosened as the traction is at right angles to the direction of the muscle fibers.

4. By disturbing the capsule so little considerable swelling is avoided, Wooten,[28] but by including the overlying capsule, somewhat greater effect is produced.

5. By not sacrificing any portion of conjunctiva or advancing it, deformity and unsightly scar tissue are avoided.

6. A tucking of a given amount of muscle will result in not more than half as much correction in the position of the eye.

In a convergent strabismus of 10 mm. it is well to tuck 15 mm. of muscle and tenotomize the rectus internus leaving a slight undercorrection. For anatomic reasons a 15 mm. tuck is about as much as one is able to make. Then, too, the externus itself is about 50 mm. in length and a shortening of a greater proportion might easily impair its power of contraction. Motais has shown that the contraction of a rectus muscle necessary for its full physiologic movement is about one-half its length.

I feel that I can recommend this operation to my colleagues as being absolutely safe, permanently effective, devoid of any permanent noticeable deformity, easy to perform under local anesthesia in any one over 12 years of age. The period of convalescence need not be longer than one week.

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: The operation described by Dr. Woodruff is a modification of my operation without improvement. Everybody knows that the tucking operation is mine, so that I need not claim it in this presence. I am glad to have the endorsement of Dr. Woodruff and some twelve or eighteen others who have made some slight change in method. The original tucking operation as described in my first writing is the ideal tucking operation of all. The incision is a horizontal incision just below the margin of the muscle through the conjunctiva and capsule of Tenon. The tendon, conjunctiva, the muscle and the capsule of Tenon should all be included in the tuck. The Price suture-plate is used and the sutures are passed through it and the knot tied on the plate. The operation should be done with silk and not with catgut. The stitches should be allowed to remain a whole week.

The only advancement operation that is worth anything is the operation of Lagleize. It is the ideal advancement operation in high degrees of squint. Shortening is better than advancement if it can be made to accomplish enough. Never make an incision in the capsule at all in the Lagleize operation. The conjunctiva must be held back, while the muscle stitch is being taken. The Lagleize operation differs from all others in that the tendon is not cut, but is simply flat-folded over the insertion. It is cut in other operations for advancement. For a given distance between loop of suture and tendon-insertion, twice as much effect can be accomplished with the Lagleize operation as with any tucking or shortening operation.

Dr. F. B. Tiffany, Kansas City, Mo.: I would use one needle instead of using two and I would use the catgut suture. I would merely divide the conjunctiva so as to expose the attachment of the tendon; then with a double thread I would insert the needle so as to grasp the root of the tendon in the sclera and come out, enter the needle again and come out at another point. Then I would cut the suture so as to allow it to fall into three pieces, one at the lower part, one at the upper and one at the center; then tie the suture, bringing the muscle opposite as far as I wish. I now close the incision and allow the catgut to be absorbed. There is no necessity of removing the suture. My method is shown in the accompanying illustration. [On opposite page.]

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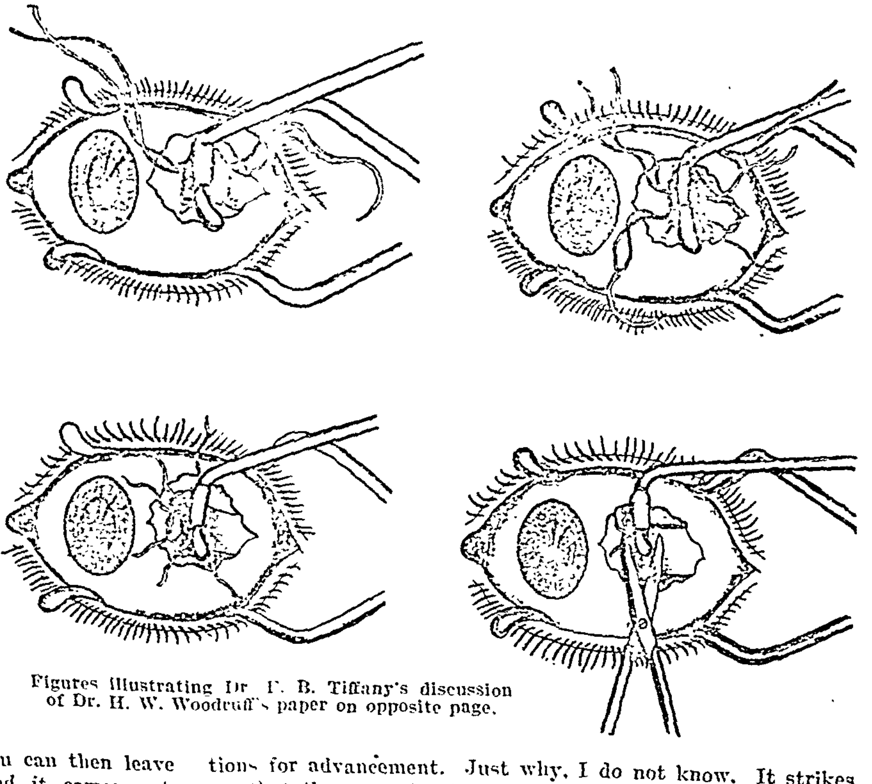
[25] Woodruff: Jour. Ophth. and Oto-Laryngol., April, 1910, p. 1.
[26] Woodruff: Jour. Ophth. and Oto-Laryngol., March, 1911.
[27] Worth: Ann. Ophth., July, 1902, p. 377.
[28] Wooten: Ann. Ophth., July, 1902, p. 431.

Dr. Vard H. Hulen, Houston, Texas: In one particular this excellent operation of Dr. Woodruff's is not an ideal operation. The same remark would apply to the operations of Dr. Savage and Lagleize. There never will be an ideal muscle operation devised that does not eliminate the objection of pulling on the fixing sutures to bring the tissues into the corrected position. I had opportunity last year of presenting a method of operating which eliminates that important feature by putting through a double suture in the sclera and also in the muscle. It is not a question of whether to advance or whether to lap: that is a question of personal choice. My operation applies to either. But if we put a suture into the muscle and a suture, we will say, into the sclera and draw the eye into position by pulling on them, we are breaking one of the most important rules of surgery, and that is, the dragging of tissues into place by pulling on the sutures which are to be tied. The way I got around that you can learn by referring to last year's Transactions of this Section. With my traction sutures you can pull the eye into position to just the extent you want; then simply tie the other sutures to hold that position. That principle, I believe, is absolutely necessary for any ideal muscle operation.

Dr. Edward Jackson, Denver: There is a principle with reference to sutures that I think is very often overlooked. If you put a stitch through paper, for instance, and drag on it you can very readily cut that stitch out, and you can cut into tendon or muscle, particularly in the direction of the fibers. If you take two thicknesses of the paper and put a suture through both and drag on it you can tear the paper in all directions before you move the position of the sutures in the least. If you put the suture through the tendon and make traction from a distant point the tendon is cut, and even with Dr. Hulen's method the traction is made on the same opening as the permanent suture passes through. But if you bring together the tissues that you want to sew, before you use any suture, with a forceps, or in any other manner, as Dr. Woodruff describes, bringing the two surfaces together and then putting the sutures through and tying them, you will avoid the necessity for elaborate sutures like those of Worth or Suffa, and you will get absolute fixation without cutting. When it is an advancement operation, put the sutures into the sclera and pull the tendon forward in its proper position and tie the tendon right down over the sclera. You can then leave in the suture until the tissues soften and it comes out, and there is no cutting and no tension on the suture. I think a good many elaborate operations for tendon-tucking and advancement would not be in existence if that point were realized. The difficulty of putting a suture through a membrane and pulling on it from a distance is considerable when compared with putting the suture right through the tendon and through the tissue it is to be sewed to. Make the most simple suture possible, then tie it there and it will hold absolutely. The only thing about such a suture is that it tends to crinkle up the tendon; but this is avoided if two of the openings are close to the insertion in the sclera; there is then none of that buckling up when the suture is tightened.

Dr. James W. May, Kansas City, Kan.: I have never seen Dr. Savage's operation and therefore could not decide from my own personal knowledge as to its merits. I have seen Dr. Woodruff's operation and it certainly does seem to me to be an operation from which there is great permanent benefit. I have not done the operation. Last May Dr. Woodruff came down to Kansas City, Kansas, at my request and at the clinic operated on three patients. In one of them there was a convergence of 25 degrees. A tucking operation on the external rectus corrected 15 degrees and left 10. In another patient with the same convergence, 25 degrees, the tucking operation relieved 15 degrees. In the other, a case of divergent squint, a tucking operation was done on the internal rectus and a tenotomy on the external, with a perfect result, and the man now has single binocular vision. I believe that a tenotomy of the opposing muscle in the two convergent cases will entirely correct the convergence. It certainly seems to me speaking for the young men of the profession, whose experience must necessarily have been small, that it is the operation of choice on account of its safety. I do not think that any one will question that the advancement operation is attended with some dangers, especially in the hands of those who are really adept. In placing the suture in the episcleral tissue near the cornea, as Dr. Woodruff has pointed out, a perforation of the globe can be done without much force. And also in taking up a bite in the suture if you are a little in doubt as to how far to go you are very apt to take too small or thin a bite and have the sutures tear out, which has happened in a great number of cases. As mentioned in the paper, sloughing of the sutures in advancement will occur. Ulcerations of the cornea have been known to follow operations for advancement. Just why, I do not know. It strikes me that they may be due to interfering with the circulation, or a corneal injury was sustained and infection supervened. Of course, there is always a possibility of faulty metabolism, of which we have heard so much and know so little. There is one thing in Dr. Woodruff's operation that I am a little in doubt about and that is the catgut sutures. How long do they remain, or have they absorbed too quickly in any case? In one of the patients operated on for me I had an idea that the sutures did not hold sufficiently long to produce a gluing together of the tendon and a permanent result.



Figures illustrating Dr. F. B. Tiffany's discussion of Dr. H. W. Woodruff's paper on opposite page.

Dr. C. D. Wescott, Chicago: I have seen the results of a number of Dr. Woodruff's operations. The method is certainly all that he claims and, as Dr. May has said, I believe it should be the operation of election for the novice in eye surgery. As something has been said about the dangers of advancement, I would like to say a word on that score. For a number of years I have done the single-stitch operation described by Dr. Jackson in his text-book. I believe I can secure a little more effect with a single operation than Dr. Woodruff secures with his operation. I use finer silk and a finer needle than is used by most men in doing an advancement. I have had the needles sharpened so that they will respond to the test for the point of the cataract knife. If I have ever penetrated the sclera no untoward result has followed. I never have tried to hurry in this operation, but I know it can be done in six or eight minutes if one chooses to do it so quickly, and it has fulfilled all the indications. I endorse what Dr. Woodruff has said as to the point of pull after all these operations. I do not believe we gain anything in leverage by putting the sutures anterior to the original attachment of the muscle.

Dr. William Zentmayer, Philadelphia: One thing bothers me and that is the large effect Dr. Woodruff gets from his operation. I have used Dr. Savage's operation—I believe it was his—just for the reason that I did not get large effects from other operations. I used it before I came away from home and corrected only 15 degrees in one of my cases, and perhaps a little less in another. The operations were combined with tendon stretching of the opposing muscle at the time of the tucking operation. I devised a needle just like that, because on two occasions I have seen the needle enter the anterior chamber. The operator can make the puncture from the sclera outward. I once had a perforation of the sclera from sloughing. A child on whom I had done an advancement wished very much to go home to spend a holiday from Thursday until Saturday. It was on the third day after the advancement and I permitted it. The patient did not return for five days, when the vitreous was protruding through the sclera. I took the child to the hospital and by energetic methods saved the eye. Five years later the child appeared in the clinic and it was interesting to see the scar in the fundus where the perforation had occurred, visible through the ophthalmoscope.

Dr. Oscar Dodd, Chicago: Being associated with Dr. Woodruff at the hospital I have had occasion to see a number of his operations and have had occasion to do some of them. I think this operation, at least in my own hands, has obviated two objections which I have had to ordinary tendon-tucking. One was the failure to get a sufficient result. You can get a sufficient result with this operation. The other objection has been the bunching up of the muscle after the shortening. I have been surprised that the thickening has not been more with this operation than in the ordinary advancement operation. As regards the amount of shortening which can be obtained, I have seen Dr. Woodruff in several cases get an amount which I hardly feel like stating—probably 30 to 40 degrees—bringing the eye around with one operation. In one operation the correction was something over 40 degrees, and with a slight clipping of the center of the tendon I got full correction. I think there is one caution that should be made, and that is care not to get too much, because it does not give. The amount you get is absolutely held. For one, I feel like commending the operation very much, although it is not a simple operation to do. Any one who goes into it with the idea that it is easy to pull up the muscle with the hook and bring the loop together, I think, will find the first time that he is mistaken. It can be done, but an assistant to carry out orders will be needed. Without a skilled assistant I find it very difficult.

Dr. E. W. Alexander, San Francisco: I have tried the operation that Dr. Hulen illustrated last year repeatedly and I find that one or two of his remarks are important to follow.

One is that you should expose the sclera in any advancement operation, and if you are going to do a tucking operation it would be as necessary as in the advancement in which you cut the tendon entirely loose. Then you can judge just how far your sutures are extending above or below the original insertion of the tendon, and you can apply the new insertion in such a way that there will be no hyperphoria or hypophoria following your advancement operation. Another point is that a rather coarse grade of silk seems to me to be very much less liable to tear through and cut than a fine suture, and even a No. 4 or No. 5 can be used with a narrow tendon in children without any difficulty in this respect.

Dr. Robert W. Miller, Los Angeles: In my work I have been less inclined to do advancements in late years than formerly. While I have never seen in my personal work any actual damage as the result of too deep scleral punctures, nor have I had any corneal sloughs, yet I have heard of such experiences in the work of others, and have experienced some anxiety in cases of my own. I think that Dr. Woodruff has done us good service in giving us his paper and calling attention to his several points of advantage. The fact that we do not gain a point of attachment further in advance, which seems to have been pretty well demonstrated, is practically new to many of us. However, it seems to me possible that the anchorage, being more extensive when we advance the tendon, it may be firmer, and the result of the operation may be in some way more accurate. Another point in dealing with these cases, which has been mentioned by another speaker, occurs to me—that of stretching the tendon of the opposing muscle.

While I think he lays no claim to priority, Dr. A. T. Davis of New York has employed stretching in such a large number of cases as to point strongly to its value. Whether we tenotomize the tendon of the opposing muscle or not, a vigorous but well-regulated stretching has seemed to me to contribute much toward the desired result.

Dr. H. W. Woodruff, Joliet, Ill.: Dr. Savage, in describing his operation, calls attention to the inclusion of the conjunctiva in the fold along with the capsule and muscle. I have endeavored to make this point clear in my paper. The conjunctiva should be left entirely alone. It is simply a protective coat and has nothing to do with the strabismus. If it can be left alone it is of advantage, because cases of deformity of the conjunctiva, from shortening, do occur. I have referred to cases in which the caruncle has been drawn toward the cornea. An incision is made in the conjunctiva simply to expose the field of operation. This is afterward closed by fine silk sutures, so that there is a minimum amount of cicatricial tissue. Some seem to have the idea that the operation is not effective in high degrees. Dr. Dodd has answered that point. There is no doubt about the ability to secure a very large effect if necessary; first by tucking, and then by tenotomy of the opposing muscle. I have never had any experience with Dr. Hulen's method, but I agree with him that, as yet, no muscle operation is ideal. I am very much obliged to Dr. Jackson for bringing out the point that sutures hold much better through two thicknesses of tissue than through one thickness. I chose to include the capsule partly on that account, and also because a better result (that is, a more permanent result) was secured. The Worth suture is not an elaborate suture. It is an exceedingly simple suture. Simply a double knot and then one end of the suture is passed through the tendon a second time, posterior to the knot. I am sure that this is an important feature of this operation. In my endeavor to obtain a maximum effect it seemed to me that if I secured a second hold on the muscle it would be of value.

Dr. May referred to his patients whom I operated on at the last meeting of the Kansas state society. In the divergent case the effect was perfect. In the convergent case there was a slight under effect. This is due to the fact that I did not tenotomize the internal rectus. These cases illustrate the rule that it is much easier to secure a perfect result in divergent cases than in convergent cases.

I do not know how long the formalized pyoktanin catgut remains unabsorbed. It is stated that it remains for weeks, but I am inclined to believe that occasionally it is absorbed too early.

New Work in Old Fields.—In order that one may do new work it is not necessary to hunt for new fields. Remember that the Crookes tube was in the physical laboratories in all parts of the world in seventeen years, before anyone suspected that it was an x-ray tube. Roentgen was hunting for accidents of the kind, and he accidentally discovered that there were phenomena outside of the tube that demanded attention. It is only needful that one shall read and think, and the work of others, which may have been published half a century ago, will suggest something to you which it never suggested to anyone before, and which may occupy your attention for years. —F. E. Nipher, *Science*.

THE OCULAR CONJUGATE AND FUSION BRAIN CENTERS

ONLY TWO AXES OF OCULAR ROTATIONS, AND ONLY TWO PLANES OF REFERENCE *

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In my investigations, some years ago, I saw the importance of finding a larger number of brain centers for the control of the ocular muscles than had been given in any list of these centers published up to that time. I not only found that there must be conjugate centers whose existence had never been announced, but that there must also be fusion centers. To the old list of conjugate centers I added six additional members; the sixth, the seventh, the eighth, the ninth, the tenth and the eleventh. The first, second, third, fourth and fifth conjugate centers had already been recognized, and Maddox had said "probably more." In addition to the six conjugate centers added to the original number, I found that there must be a fusion center for every individual extrinsic muscle, and also an individual center for each ciliary muscle and for each sphincter of the iris. In this paper I shall not refer again to the individual centers for each ciliary muscle and each sphincter of the iris, or to their conjugate centers; but only to the conjugate and individual centers pertaining to the extrinsic ocular muscles, nine of the former and twelve of the latter. I named the first eight of these fusion centers, right and left first basal centers, right and left second basal centers, right and left third basal centers, and right and left fourth basal centers. Notwithstanding it had been previously published that there was a fifth conjugate center, I found no evidence of the existence of right and left fifth basal centers, hence the skip from fourth to sixth. The remaining four I named right and left sixth and right and left seventh basal centers. To all of these basal centers, thus enumerated, I gave the general name of fusion centers, and declared them to be under the control of the fusion faculty of the mind. The purpose of this paper is to prove the existence of the nine conjugate centers connected with the extrinsic muscles of the eye, and the twelve fusion centers connected with these muscles. All of these are shown in Figure 1.

I did not recognize at that time that all ocular rotations, whether monocular or binocular, were effected around only two axes. At that time it was a matter of general knowledge that rotations in the horizontal plane were around a vertical fixed axis, and that the vertical rotations were around a horizontal fixed axis. I, at that time, found myself in agreement with the teaching of those who had preceded me, that every oblique rotation was around a fixed axis and that this axis was at right angles to the rotation plane; but this is not true.

In Figure 2 I represent the equator of the eye and the vertical and transverse axes lying in the plane of the equator, and I unhesitatingly declare that around these two axes are effected all oblique rotations, and that throughout such a rotation each of these two axes is itself in motion; there are no fixed axes for oblique rotations.

I was not alone in the thought that an oblique point in the upper field might be reached by a rotation, first around the vertical axis and then upward on the transverse axis of the eye, without any torsion of the eye on reaching the obliquely placed second point of view. I was at that time, as I am now, convinced that in oblique rotations there was no torsion and I concluded that the torsioning did not occur because of the contraction of the obliques for the purpose of preventing it. I still believe, and shall prove, in connection with the study of Figure 3, that oblique secondary points of view are reached without torsion, and that this is prevented by the obliques.

A few weeks ago the thought occurred to me that, if two simple rotations, the first around the vertical axis and the second around the transverse axis, could enable the eye to reach the second point of view obliquely placed, without torsioning, the same muscles could effect the rotation in an oblique plane by acting simultaneously on the eye, one rectus effecting the upward or downward and the other rectus the right or left movement, while an oblique stands guard against torsion.

I at once appealed to my muscle indicator for proof of the correctness of the thought. I saw at once that, while the elevators were rotating the eyes on their horizontal axes, the lateral recti could rotate the eyes at the same moment around the vertical axes, and that the result of this double rotation taking place simultaneously would be the same as if the eyes had moved first around one of these axes and then around the other. I elevated the isogonal circle of the muscle indicator, carrying the visual axes with it, but at the same time, by another force, I shifted the axes in the plane of the isogonal circle and reached a secondary point of view without torsioning. The two forces were independent of each other, and yet were acting in most perfect harmony. Thus it is that I shall be able to prove, as I proceed, that every oblique rotation is effected by the conjoined work of three conjugate centers and two fusion centers, the five acting on three pairs of muscles; that one of these pairs elevates or depresses the two eyes, another pair shifts the visual axes to the right or left, as the case may be, and the third pair prevents any rotation around the visual axes; that one fusion center acts on one lateral rectus, hindered by an oblique, while the other fusion center acts, as the case may be, on one superior or one inferior rectus, hindered by an oblique.

That the study of Figure 3, in proof of the existence of all of the nerve centers named above, may be made easier, I shall group the twelve ocular muscles into the nine pairs, and in connection with each pair, shall name the conjugate center in control.

1. The two superior recti, under the control of the first conjugate center, for elevating the visual axes.
2. The two inferior recti, under the control of the second conjugate center, for depressing the visual axes.
3. The two interni, under the control of the third conjugate center, for the converging of the visual axes.
4. The right externus and the left internus, under control of the fourth conjugate center, for effecting rotations to the right.
5. The left externus and the right internus, under control of the fifth conjugate center, for effecting rotations to the left.
6. The two superior obliques, under the control of the sixth conjugate center, called into action only when the rotation is directly down and in conjunction with the second conjugate center and the two inferior recti, the purpose being to prevent outward torsioning.
7. The two inferior obliques, under control of the seventh conjugate center, but called into action only when the rotation is directly up, and then in association with the first conjugate center and the superior recti, the purpose being to prevent torsioning inward.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

8. The superior oblique of the right eye and the inferior oblique of the left eye, under control of the eighth conjugate center and called into action only when rotations are obliquely up and to the right or down and to the left, to prevent torsioning to the right.

9. The superior oblique of the left eye and the inferior oblique of the right eye, under control of the ninth conjugate center, called into action only when the rotation is up and to the left, or down and to the right, to prevent torsioning to the left.

As to the fusion or basal centers, which could also be called the duction centers, the following is true:

The right and left first fusion centers belong, respectively, to the right and left superior recti. The right and left second fusion centers belong, respectively, to the right and left inferior recti. The right and left third fusion centers belong, respectively, to the right and left interni. The right and left fourth fusion centers belong, respectively, to the right and left externi. The right and left sixth fusion centers belong, respectively, to the right and left superior obliques. The right and left seventh fusion centers belong, respectively, to the right and left inferior obliques.

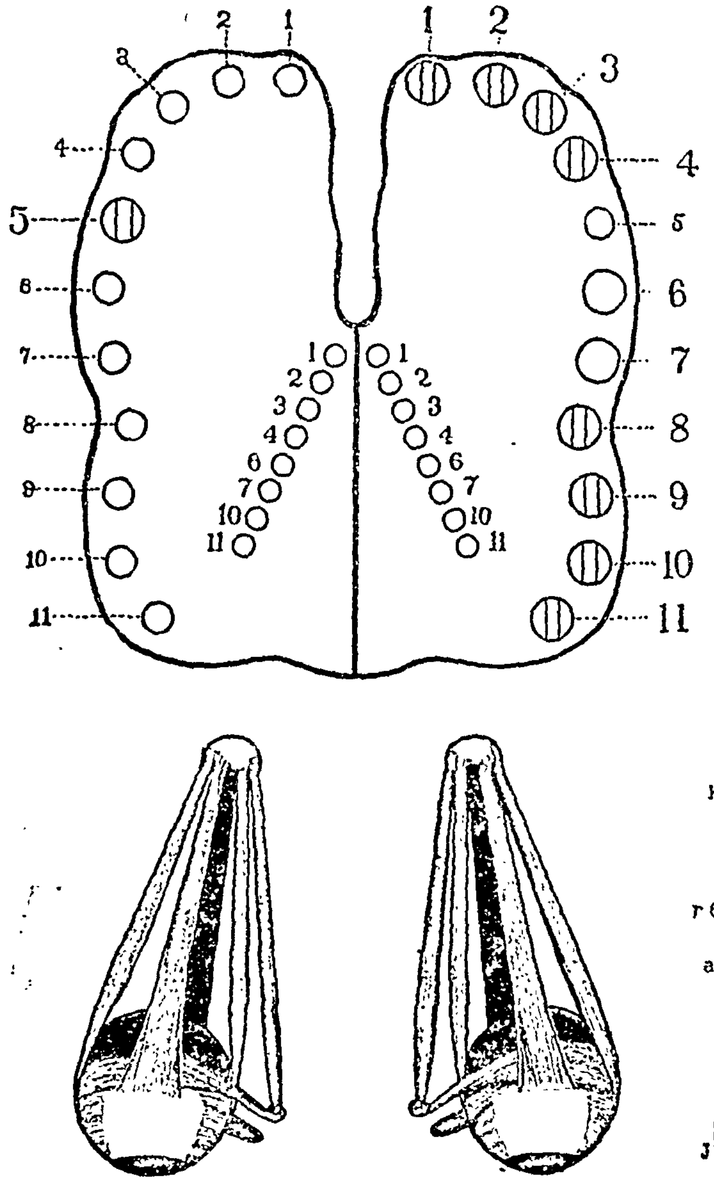

Fig. 1.—Conjugate and fusion brain centers.

Having named all of the conjugate and fusion centers and the pairs of muscles, or *individual muscles, to* which they respectively belong, it now remains for me to prove, by means of Figure 3, the actual existence of all these. The two planes to which I wish to call special attention are the plane *a-b-c-d*, which represents the *horizontal* fixed plane of the head extended; and the plane *g-h-i-j*, *which represents the vertical fixed* plane of the head. These two planes, at right angles to each other, have their line of intersection in *e-f*. Points in space located anywhere on this line are primary points of view, and are known to be on this line of intersection. The plane *a-b-c-d* is a plane of reference so far as objects above or below it are concerned. The plane *g-h-i-j* is a plane of reference for all objects either to the right or left of this plane.

If *f* be the *point of fixation* and the lateral recti muscles are normal, only the third conjugate center has acted and only the two interni have responded. If the eyes are esophoric, to prevent the visual axes crossing between *e* and *f*, the right and left fourth basal centers must each act on its individual externus. If the eyes are exophoric, the right and left third basal centers must be called into action to prevent the crossing of the visual

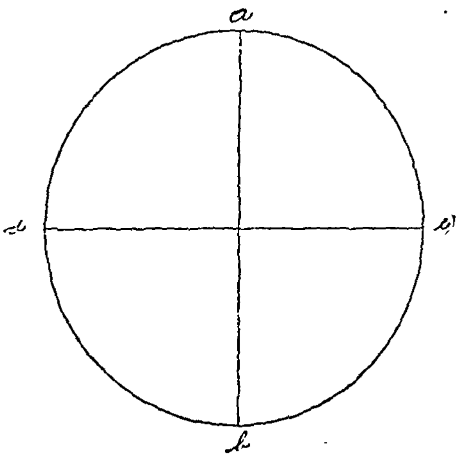

Fig. 2.—The equator and the two axes of rotations.

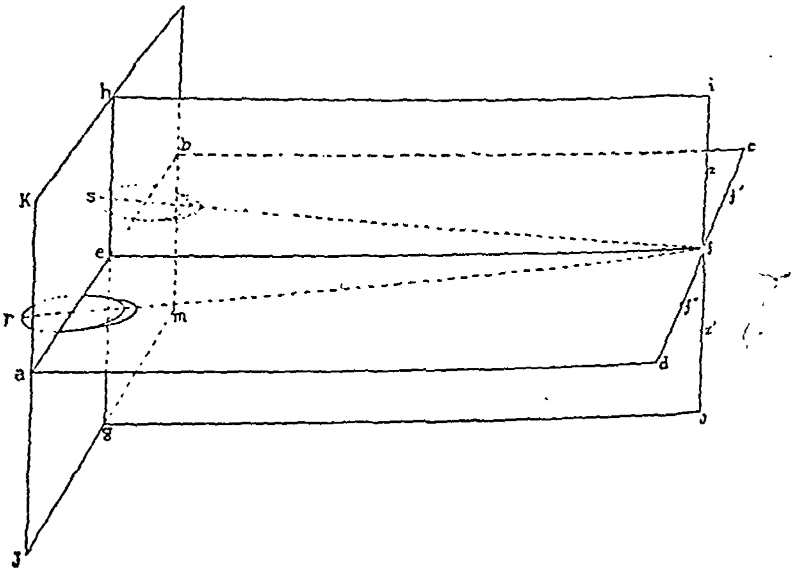

Fig. 3.—The two planes of reference.

axes at some point beyond *f*. The neuricity from the right and left third basal centers has supplemented the neuricity *from the third conjugate* center.

If the eyes are to be rotated from *f* to *f''*, and are orthophoric, the third conjugate center will keep up the convergence and the fourth conjugate center *alone*, acting on the right externus and the left internus, will sweep the point of convergence from *f* to *f''*. If the eyes are esophoric the neuricity *to the left internus* would make the eye move faster and farther than the right externus would move its eye, if *there* were no supplementary supply for the latter muscle. This supplemental neuricity would come from the *right fourth* fusion center. If the eyes were exophoric, the neuricity from the fourth conjugate center would *make* the right eye move faster and farther than would the left, unless supplemental neuricity should be sent to the left internus. This supplemental power would come from the left third basal center.

If the eyes were to be rotated from *f* to *f'*, and they are orthophoric, the convergence would be kept up by the third conjugate center, and the point of fixation would be carried from *f* to *f'* by neuricity from the fifth conjugate center only, acting equally on the left externus and the right internus. If the eyes to be thus rotated are esophoric, the neuricity from the fifth conjugate center to the right internus would make the right eye move further and faster than that sent to the left externus would turn the left eye. To prevent this lagging behind of the left eye, supplemental neuricity must come from the left fourth fusion center to the left externus. If such eyes were exophoric, the right eye would lag behind the left, unless supplemental neuricity should come from the right third basal center.

If the rotation is to be from *f* to *z*, the visual axes must be lifted by the two superior recti, and the vertical axes must be kept parallel by simultaneous action on the part of the inferior obliques. The impulse to the former muscle would come from the first conjugate center, and that to the latter would come from the seventh conjugate center. If the eyes to be thus rotated are orthophoric, no basal center would be called into action, but if the left eye should be hyperphoric, the neuricity from the first conjugate center would make that eye move upward faster than the right eye would go, unless the superior rectus of the right eye should receive supplemental neuricity from the right first basal center. Reversing the hyperphoria, the neuricity would have to come from the left first basal center in order to make that eye sweep in harmony with its fellow.

Rotations of these eyes from *f* to *z'*, if orthophoric, would be effected by neuricity from the second conjugate center, acting on the two inferior recti to pull the visual axes down, and, simultaneously, neuricity would come from the sixth conjugate center to the two superior obliques, and no basal center would be aroused into activity. But, if the right eye be cataphoric, supplemental neuricity would have to be sent from the left second basal center to the inferior rectus of the left eye, in order to make it keep pace with its fellow in rotation. In either of these vertical rotations the convergence would be effected by the third conjugate center.

In any rotation above the horizontal plane, whether cardinal or oblique, the first conjugate center must be active. In any rotation below the horizontal plane the second conjugate center must be active. In any rotation to the right of the vertical plane, whether in the horizontal plane or above or below it, the fourth conjugate center must be active. In any rotation to the left of the vertical plane, whether in, above or below the horizontal plane, the fifth conjugate center must be active. In a cardinal rotation above the horizontal plane, the two inferior obliques must act together. In a cardinal rotation below the horizontal plane, the two superior obliques must act together. In oblique rotations up and to the right and down and to the left, the eighth conjugate center must act on the superior oblique of the right eye and the inferior oblique of the left. In any oblique rotation up and to the left or down and to the right, the ninth conjugate center must act on the left superior and the right inferior obliques. These oblique rotations, even of orthophoric eyes, cannot take place under the influence of the conjugate centers alone, for the reason that one oblique will help one of the recti muscles of a pair and hinder the other, and *vice versa*, of each eye, thus making it necessary for one basal center for a rectus muscle belonging to one eye to be active to overcome the retarding influence of the oblique muscle, and the same is true of the retarded rectus muscle of the other eye. To illustrate: In the oblique rotation up and to the right, the right superior oblique would help the right externus, but would hinder the right superior rectus. The inferior oblique of the left eye would hinder the left internus, but would help the left superior rectus. The right first basal center, therefore, must help to stimulate the right superior rectus, and the left third basal center must help stimulate the left internus. The basal center for the oblique muscles counteract the insufficiency of these muscles, whether the eyes be at rest or in motion.

Without the fusion centers, duction would be impossible; therefore, they can very properly be called duction centers. Each of the right and left first basal centers would produce superduction. Each of the right and left second basal centers would produce subduction. The right and left third basal centers would produce adduction. The right and left fourth basal centers would produce abduction. The right and left sixth basal centers produce minus cycloduction and the right and left seventh basal centers produce plus cycloduction.

The conjugate centers are verting and converging centers, and are not the centers that stand guard when oblique rotations and heterophoric conditions would cause the visual axes and the horizontal retinal meridians to leave the plane of the primary isogonal circle.

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ABSTRACT OF DISCUSSION

DR. MELVILLE BLACK, Denver: We have listened to Dr. Savage for a good many years and he has told us many valuable truths. Once we get his ideas straightened out a little they are not at all difficult to follow. I believe we are greatly indebted to Dr. Savage for having attacked a theory of Helmholtz that seemed incontrovertible. I believe he has shown that Helmholtz was mistaken in certain of his teachings, and that it should be for a member of our Section to have positively demonstrated this fact is worthy of our commendation.

DR. HIRAM WOODS, Baltimore: Back as far as C. S. Bull's edition of Sollberg-Wells' text book there is an excellent discussion of the individual action of each eye muscle, together with the position in which the individual action of that muscle will put the eye, and how that position will affect binocular vision, and how some of the results of that individual action are compensated for or removed by other muscles. For instance, it is stated that in convergence the interni work together on the primary horizontal plane. In lateral motion the externus of one eye and the internus of the other act on the horizontal plane. In looking directly up the superior rectus pulls up and tilts the vertical meridian of the cornea inward, and that tilting is removed by the contraction of the inferior oblique. In looking down, on account of its oblique insertion, the inferior recti pull the eye down, tilting the vertical meridian of the cornea out, and the superior oblique overcomes that. Now with the exception of the introduction of these hypothetical centers and the term "cardinal rotation," wherein is Dr. Savage's teaching different from that taught us twenty-five years ago? Wells worked it out from the action of each individual muscle. Dr. Savage works out the identical thing and seems to me to assume these association centers. No one esteems Dr. Savage more than I for his scientific worth, but I cannot see that we are any further ahead in the understanding of muscular action for the assumption of these centers.

Dr. G. C. Savage, Nashville: This instrument, the muscle indicator, is built on the fundamental truth that the center of the macula is the posterior pole of the eye, and that the visual axis and all other visual lines go through the center of rotation. My faith in that proposition has been backed by me financially and otherwise. I offered, two years ago, a thousand dollars to any man who would name a single phase of an ocular muscle or any combination of ocular muscles, normal, abnormal or pathologic, that I could not show with this device. That the center of the macula is the posterior pole and that lines of direction are radii of retinal curvature prolonged, and that the judgment of the scientific world will be that at no very distant day, I have not the slightest doubt. I am sorry that there was not some discussion relative to the motions of the eye. I do not take it as an indication that there is nobody here who understands this part of physiologic optics. I am sure very many here do understand it, but I think they are willing for me to continue the fight in a lone-handed way until the victory finally comes. [The remainder of the discussion was a demonstration of the existence of the twelve fusion brain-centers, each connected with only a single ocular muscle, as set forth in the body of the paper.]

CHANGES OCCURRING IN THE REFRACTION OF CORRECTED AMETROPIC EYES *

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In undertaking this analysis of cases of ametropia, in which the error had been determined one or more times after the lapse of several years from the time of the first determination, and in which correcting glasses had been worn, I was actuated by a desire to see whether some unformulated belief which I possessed, and which I had nowhere seen expressed, would be borne out by facts. Further, as so little is said in text-books on ophthalmology and on refraction, and as some of the things which are said are not in accord with my unsubstantiated views I wished to clear my mind of the uncertainty. Quotations from some of the standard text-books and from the writing of several authorities will here be given that a comparison may be made between the views there expressed and conclusions reached as the result of this analysis. A perusal of the chapter on refraction in text-books on ophthalmology and of special treatises on refraction shows that with one or two exceptions the subject is entirely ignored.

The possibility of an eye with low hyperopic astigmatism becoming myopic was conclusively shown more than twenty years ago by Dr. William F. Norris and also by Dr. Samuel D. Risley. Dr. Risley laid particular stress on the rôle played by astigmatism in bringing about this change. As he expressed it: "without exception they passed from the too shallow hypermetropic eye-ball, over into the lengthened myopic eye, through the turnstile of astigmatism." This fact is so generally recognized as not to require confirmation at this time, yet many text-books make no mention of it. The "hypermetropia acquisita" of Donders is the only supposed change in the refraction of the eye of which note is generally taken. MacNamara, quoted by Randall, urges that young hyperopes, even those with absolute hyperopia, should not be given correcting glasses or even under-correcting lenses for constant wear, asserting that the normal development of the eye, whereby the hyperopia would be outgrown, might thus be interfered with, and the defect rendered permanent. Randall, having had the same thought, and having acted on it, did not observe a decrease in the hyperopia in a single instance. Nettleship states that hyperopia always dates from birth and does not afterward increase, except slightly in old age; but it may diminish and give place to myopia by elongation of the eye.

Jackson sees in the occurrence of astigmatism in 41.8 per cent. of myopes and only 17.2 per cent. of hyperopes, a connection between astigmatism and myopia. He further states that there is little reason to doubt the correctness of the common belief that the majority of cases of astigmatism remain the same throughout life. He records eighteen cases of progressive hyperopic astigmatism. In all, there was an increase in the degree of the hyperopic astigmatism. He is of the opinion that the frequency of these cases would be about 2 per cent. of all cases seeking relief on account of anomalies of refraction. The cases in which, after the lapse of an equal length of time, the use of a mydriatic has shown no change in the amount of the astigmatism outnumbered them very decidedly, and cases of mixed and myopic astigmatism are relatively, though not absolutely, more frequently progressive. He has encountered no case of regressive astigmatism—none in which the astigmatism had diminished so much as ½ D., though it is not improbable that such cases occur. In most of the cases there was an increase in the hyperopia in all of the meridians. In six of the cases there was actual diminution of the hyperopia in one of the principal meridians of one or both eyes. He has not found that the liability to change in the amount of astigmatism is confined to any one particular period of life, though such changes may be more frequent in early life.

Emerson also reported a case of progressive hyperopic astigmatism.

Theobald has recorded a case in which there occurred an increase of hyperopia with an increase of astigmatism, a case of increase of myopia with an increase of astigmatism, and a case of myopic astigmatism becoming mixed astigmatism. He believes such cases to be probably of infrequent occurrence. Randall doubts the occurrence of hyperopia acquisita of advanced life in the sense referred to by Donder.

According to Thorington, astigmatism may develop from any disease or injury that will cause a lengthening, shortening, or inequality in one or more of the meridians of the cornea or lens. The same author refers to the development of compound myopic astigmatism from low degrees of compound hyperopic astigmatism and in this connection states that it is well known that hyperopic astigmatism is a congenital defect.

Alger refers to the development of myopia from hyperopia and also the acquired hyperopia of old age.

Duane is the only author whose writings contain any extended reference to the phase of refraction with which this paper has in particular to do. Regarding astigmatism, he says: "Once developed, it remains, on the whole, practically stationary during childhood, youth and early manhood. Changes do take place in it from time to time, but they are inconstant and usually slight, and there is no special rule governing the way in which they develop. After middle life, however, there is a tendency for astigmatism to change its character. Astigmatism with the rule tends to become less, or is sometimes converted into astigmatism against the rule, and astigmatism against the rule often develops where no astigmatism existed before, so that in old age astigmatism against the rule is the most common variety."

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

An analysis of the changes of refraction occurring in 550 eyes was made. The eyes were divided into three groups representing age periods at which changes are most likely to occur, namely: patients under 20, between 20 and 45, and over 45. As the study progressed, further subgroups seemed desirable and were made. One hundred and fifty-five patients (28 per cent.) came under the first group, 322 (55 per cent.) under the second group and ninety-two (17 per cent.) under the third group. In 222 over ten years (in many instances more than fifteen years) had elapsed between the first and last refraction tests, in 320 between five and ten years had elapsed. The cases were all from private records. With few exceptions in persons under 50 years of age all the tests were made under cycloplegia, usually secured by the use of atropin; in between fifty and fifty-five either no cycloplegic or homatropin was used. In most cases the glasses had been worn constantly.

No eyes were included which showed incipient cataract, glaucoma, present or past evidences of inflammation either in the anterior or posterior segment of the globe or in which a developing pterygium or a chalazion was present. This was done because it was not the purpose to show the effects of inflammation or degenerative processes on the refraction of the eye.

The class of patients were those usually met in private practice.

The accompanying table summarizes the analysis:

	Number of Cases.	Percentage of All M or H Eyes.	Percentage of H or M Eyes Which Underwent a Change.	Percentage of HaH or MaM Eyes Which Underwent a Change.	Percentage Under 20 Years of Age.	Percentage from 20 to 45 Years of Age.	Percentage Over 45 Years of Age.
Increase of H with increase of As...	36	9	12	16	17	53	30
Increase of H with decrease of As...	44	11	15	19	18	60	22
Decrease of H with increase of As...	116	30	40	51	36	57	7
Decrease of H with decrease of As...	32	8	11	14	19	57	25
Increase of M with increase of As...	16	24	31	44	37	56	6
Increase of M with decrease of As...	9	14	17	26	22	67	11
Decrease of M with increase of As...	8	12	15	23	37	63	0
Decrease of M with decrease of As...	2	3	4	6	0	100	0
Increase of H....................	40	10	14	..	22	38	40
Decrease of H....................	24	6	8	..	30	45	25
Increase of M....................	16	24	31	..	7	93	0
Decrease of M....................	1	2	2	..	0	0	100
HaH no change....................	51	13	..	..	12	78	9
MaM no change....................	11	17	..	..	18	27	54
H no change....................	46	12	..	..	26	54	20
M no change....................	3	5	..	..	0	100	0
HAs or low HaH or MaM becoming MAs+HAs	22	..	..	..	..	..	..
Various other transitions..........	64	..	..	..	..	..	..
HaH with change in only one element	32	..	..	..	..	..	..
MAs+HAs with change in M or H meridian	28	..	..	..	..	..	..
Development of As in H..........	30	..	..	..	..	..	..
Development of As in M..........	1	..	..	..	..	..	..
Loss of total As....................	9	..	..	..	..	..	..

Summary: Total H eyes, 389; total HaH eyes, 279; total M eyes, 46; total MaM eyes, 66. Eighty per cent. of the eyes tabulated underwent a change either in the static refraction or in the amount of astigmatism.

The cases were analyzed to show: no change in HaH,[1] no change in MaM, no change in HAs; no change in MAs, no change in M or H; increase in static refraction M and H; increase in the static refraction with increase or decrease in the astigmatism; decrease in the static refraction with an increase or decrease in the astigmatism; MAs+HAs analyzed to show changes occurring in the principal meridians; low-grade ametropia going over into MAs+HAs, and all possible transitional forms; development of astigmatism where no astigmatism had before existed, loss of total astigmatism.

In order to avoid confusion or misunderstanding, in the summary the changes in the static refraction and in the astigmatism in compound astigmatic eyes have been classified according to the nature of the ametropia.

CHANGES IN COMPOUND ASTIGMATIC EYES

The largest percentage of change in HaH occurred in the group in which there is a decrease in the H with an increase of As. This took place in 51 per cent. of all HaH showing a change in the amount of H or As; and in 30 per cent. of all hyperopic eyes tabulated. The second largest percentage of change occurred in HaH in the group in which there is an increase in the H with a decrease in the As. This took place in 19 per cent. of all HaH eyes showing a change in the amount of H or As; and in 11 per cent. of all hyperopic eyes tabulated. In MaM, the largest percentage of change occurred in the group in which there is an increase in the M with an increase in the As. This took place in 44 per cent. of all MaM eyes showing a change in the amount of M or As; and in 24 per cent. of all myopic eyes tabulated. The second largest percentage of change in MaM eyes occurred in the group in which there is an increase in the M, with a decrease of the As. This took place in 26 per cent. of all MaM eyes showing a change in the amount of M or As.

Considering these groups in the sense of a change in the static refraction it will be seen that in eyes with a compound astigmatic ametropia, there was an increase in the static refraction with an increase in the astigmatism in 48 per cent.

AGE PERIOD AT WHICH CHANGE OCCURRED

Fifty-seven per cent. of the changes in HaH occurred between the age period of from 20 to 45 years; 23 per cent. under 20 years, and 20 per cent. over 45 years. In MaM 71 per cent. occurred between 20 and 45, 24 per cent. under 20, and 5 per cent. over 45. While these figures show that far the greatest number of changes occurred in the age period of from 20 to 45 years, they are probably of no significance, as the same preponderance of numbers is seen in this same period in the cases of HaH which underwent no change. They show, however, that changes in M are of infrequent occurrence after the forty-fifth year, and that they occur in H with much greater frequency, but still with much less frequency than before the forty-fifth year.

Of the total number (279) of HaH, 228, or 80 per cent., underwent a change in the relation between the amount of H and the amount of the As; and of the forty-six MaM eyes thirty-five, or 76 per cent., underwent a similar change. This would indicate that there is no greater tendency for MaM to change than there is for HaH to change. Of the twenty-eight cases of MAs+HAs, twenty-five, or 89 per cent., underwent a change in the relation between the amount of H and M in the principal meridians. Of the thirty-two cases of HAs twenty-nine, or 90 per cent., underwent a change in the refraction of the principal meridians. Of the ten cases of MAs ten, or 100 per cent., underwent a change in the principal meridians.

This shows conclusively that simple and mixed astigmatism are the least stable of the ametropic refractive states. In MAs+HAs the eyes in which there was an increase in the M with a decrease in the H; an increase of the H with a decrease of the M; an increase of the M with an increase of H, and an increase of M with no change in H, were almost evenly divided. Twenty-two eyes with a low compound As or a simple As went over into mixed As and *vice versa,* nine eyes with MAs+HAs became MaM, HaH, MAs.

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[1] Abbreviations: M=myopia; H=hyperopia; HAs=simple hyperopic astigmatism; MAs=simple myopic astigmatism; HaH=compound hyperopic astigmatism; MaM=compound myopic astigmatism; MAs+HAs=mixed astigmatism.

CHANGES IN HYPEROPIA

Of 126 hyperopic eyes, in patients over 45 years of age in which the average age at which the final test was made was 53 years, in fifty-one, or 40 per cent., there was a decrease in the H, in forty-one, or 33 per cent., there was an increase in the H, and in thirty-one, or 27 per cent., there was no change. Because of these variations from the generally accepted views a second series of fifty-five eyes, in which the average age at which the first test was made was 55 years and the final test 63 years, was analyzed. In 45 per cent. there was an increase in the H, in 27 per cent. there was a decrease, and in 27 per cent. there was no change. Here, again, we see that the eyes in which no increase occurred overbalance those in which an increase occurred. While these figures are insufficient in number to warrant a dogmatic statement there does not seem to be any greater tendency at these age periods for the H to increase than for it either to remain stationary or decrease.

The average amount of increase of H equaled ⅜ D. The average amount of decrease in H equaled ⅝ D. In the group showing an increase in H, one eye in which a rather rapid increase of 3 D. occurred was omitted, and in the group in which a decrease occurred two eyes, in one of which the change equaled 2 D. and the other 6 D., both in the same individual, were omitted, as the change occurred rather rapidly and it was considered probable that it was due to a pathologic cause. If they be included then the average increase was ½ D., and the average decrease 1 D.

Including in the group "H no change" cases of HaH in which no change whatever took place, and cases of H in which no change occurred, there were ninety-seven cases, or 25 per cent. of all of the hyperopic eyes tabulated. Of the pure cases of H there were twenty-four, of these four, or 16 per cent., underwent no change, twelve, or 50 per cent., showed an increase, and eight, or 33 per cent., underwent a decrease.

CHANGES IN MYOPIA

Included in the group "M no change" are the same class eyes as were included under the same heading for H. Of these there were fourteen. Of the pure cases of M there were four. All of the latter underwent an increase.

These figures indicate that H is more stable than M, and that whereas in M there is invariably an increase in H there may be either an increase or a decrease.

ACQUIRED ASTIGMATISM

Astigmatism was acquired in thirty-one eyes. In all but one instance, the eyes acquiring the astigmatism were hyperopic, or 8 per cent. of the hyperopic eyes. Sixteen, or 51 per cent., of the individuals were under 45 years of age. The average age in this group at which the astigmatism was first present was 32 years. In seven, or 44 per cent., the axis of the astigmatism was against the rule; in seven, or 44 per cent., it was with the rule; and in two midway between 90° and 180°. The average amount of astigmatism equaled a little less than ½ D. In fifteen, or 49 per cent., the individuals were 45 years of age or over. In this group the average age at the time the astigmatism was discovered was 53 years. All the individuals were hyperopic. In thirteen, or 87 per cent., the axis was against the rule. The average amount of As equaled a little less than ½ D. These figures indicate that astigmatism may develop at any decade and occurs with equal frequency in the third as in the fifth decade, and that after the forty-fifth year; in the majority of cases the axis was against the rule, while before this period the axis was as often with as against the rule.

LOSS OF ASTIGMATISM

The total astigmatism was lost in nine eyes; in four, or 44 per cent., in individuals under 45 years of age. In this group, the average age at which the loss was determined was 36 years. All the eyes were hyperopic. In three, or 75 per cent., the astigmatism had been with the rule. In five, or 56 per cent., the individuals were over 45 years of age. In this group, the average age at which the loss of astigmatism was discovered was 53 years. All were hyperopic. In three, or 60 per cent., the axis was with the rule, and in two, or 40 per cent., it was against the rule. The average amount of the astigmatism lost was ½ D.

These figures indicate that the total astigmatism probably may be lost in any decade, but that this occurs most frequently in the later decades and possibly represents a transitional stage to astigmatism against the rule, as in 60 per cent. the axis of the astigmatism which had existed was with the rule.

CHANGES IN MIXED ASTIGMATISM

Of twenty-eight cases of mixed astigmatism, twenty-five, or 89 per cent., underwent a change in one or both elements, and in three, or 11 per cent., no change occurred. There was an increase of M with a decrease of H in six eyes; an increase of H with a decrease of M in seven eyes; an increase in both M and H in six cases; and an increase of M with no change in H in six. The tendency is for both meridians to change, but the most frequent change is for the myopic meridian to increase; but the most frequently associated change was an increase in the hyperopic meridian associated with a decrease in the myopic meridian.

CONCLUSIONS

1. Ametropia tends to change in degree even when the error is carefully and repeatedly corrected and the glasses worn constantly.
2. Almost every conceivable change may occur.
3. The tendency is in the direction of an increase in the static refraction with an increase in the astigmatism.
4. In compound hyperopic astigmatism the most frequent change is a decrease of the hyperopia with an increase in the astigmatism.
5. In compound myopic astigmatism the most frequent change is an increase in the myopia with an increase in the astigmatism.
6. There is no greater tendency for compound myopic astigmatism to change than there is for compound hyperopic astigmatism to change.
7. Simple myopia (rare) is never a stable condition, it almost invariably increases in amount.
8. Simple myopic astigmatism is the least, and simple hyperopic astigmatism the next least stable of astigmatic errors.
9. Simple hyperopia sometimes remains constant, but is subject to undergo both an increase and decrease.

10. In compound astigmatism the static refraction may change without a change taking place in the astigmatism and *vice versa.*

11. In mixed astigmatism, the myopic meridian most frequently changes and shows an increase, although an increase of the hyperopic meridian with a decrease in the myopic meridian in the same eye probably occurs with the most frequency.

12. Astigmatism is often acquired in hyperopic eyes, and as frequently in the third as in the fifth decade. Before the forty-fifth year the axis of the acquired astigmatism is as frequently with as against the rule, but after the forty-fifth year it is against the rule in 85 per cent. of patients.

13. The total astigmatism may be lost probably in any decade, but more commonly in the later decades and at this time probably represents a transitional stage to an astigmatism against the rule.

14. A change in the axis of astigmatism occurs in about 50 per cent. of the cases.

15. The changes in the refraction occur with most frequency in the age period of from 20 to 45 years.

16. After the forty-fifth year changes in the amount of hyperopia in compound hyperopic astigmatism occur much more frequently than do similar changes in compound myopic astigmatism.

17. There is no greater tendency toward an increase in hyperopia between the fifty-fifth and sixty-fifth years than between the forty-fifth and fifty-fifth years.

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ABSTRACT OF DISCUSSION

Dr. W. E. Lambert, New York: In order to discuss intelligently such a paper as Dr. Zentmayer has given us, which is one of statistics, one should have consulted his own records and ascertained the facts about this condition into which Dr. Zentmayer has gone. The analysis of the cases which he has made, with the results, means a great deal of labor, and the facts which he has ascertained by this analysis bring to us some very useful information. I think I am safe in disagreeing with him on one point. My understanding is that the decrease in the hyperopia in young people is a natural condition following the development of the eye and, of course, we all agree that in most cases myopia, especially from 12 to 20 years, is liable to increase, and we must take precautions. My impression is that the astigmatism is very stable. In a large number of cases that I have examined from time to time I find it remaining practically the same. The development, or the manifestation of astigmatism late in life is compatible with that, and I think it is unfortunate that Dr. Zentmayer had not made corneal astigmatism separate from the total refraction, because it is possible that the development of astigmatism late in life may be due to either one of two conditions; that is to say, the corneal astigmatism may have existed previously and may not have manifested itself, and as the lens loses its elasticity this astigmatism which had existed before in the curvature of the cornea becomes manifest. I am sorry, therefore, that in the examination of these cases the readings of the ophthalmometer were not included, showing us whether the corneal astigmatism had remained constant or had changed. Dr. Zentmayer has stated that he does not refer to any cases in which pathologic conditions had produced changes in the refractive condition, but I am going to mention two peculiar cases. In one case I was laughed at by one of my colleagues and told that my observations were incorrect, etc. I refer to the enormous amount of astigmatism that may be produced by a chalazion. Shortly afterward I had a similar case. The astigmatism in both disappeared after curing the chalazion. Another rather peculiar development of astigmatism amounting to 1 D was in a young boy. He had had a perforating ulcer of the cornea with resulting anterior synechia, but the pupil was not much distorted. The advice was to leave it alone. After two or three years he began to develop quite a large amount of astigmatism, which increased, undoubtedly owing to contraction of the iris. An iridectomy was performed subsequently and the astigmatism entirely disappeared.

Dr. C. D. Wescott, Chicago: As I looked over the paper before coming to the meeting I wished very much that I might have read it before I began doing refraction work. In my pupilage I was given some hard-and-fast rules and I failed from my reading to learn many of the things Dr. Zentmayer has pointed out to-day. So far as I can say without going over my records I can endorse all that he has said. I feel confident of the correctness of his views. I also have observed the change of astigmatism from the pressure of a chalazion on the lid. You have all noticed the change in the reading of the ophthalmometer in patients who squint and half close the lids during the examination. These are common observations. In a quotation from Dr. Jackson I was surprised to notice that he tells us that only 17.2 per cent. of hyperopes are astigmatic; I felt confident that that was not according to my experience and since I came here my assistant has run over the last 100 refraction cases in my records. In those 200 eyes there were ten with simple hyperopia, 107 with combined hyperopia and astigmatism; there were six eyes in which there was pure myopia and twenty-nine in which there was combined myopia and astigmatism.

Dr. G. C. Savage, Nashville: There are three classes of patients to whom I always say that they will probably have to have a change of lenses in a longer or shorter time. One class is the astigmatic, whether hyperopic, myopic or mixed. Another class is the myopic patient, for we all know that myopia is a thing that increases in a large percentage of cases. The remaining class is the presbyopic. If I have a patient whose corneal astigmatism corresponds with the total astigmatism as shown by means of the lens, then I say they will not have to change the astigmatic lens. In my own case the corneal astigmatism was the same twenty-two years ago as it is to-day, but the total astigmatism was much less. The total astigmatism finally became the same as the corneal. My explanation of that is this: The plane of the lens should be parallel with the tangent of the cornea at its center. If the cornea has its tangent parallel with the lens and there is no astigmatism, then there will be no total astigmatism. If the cornea measures 1 D of astigmatism and there is no total astigmatism shown by retinoscopy or lenses then I know that the lens has been tilted so as to produce 1 D of astigmatism. I know further that the lens is not always going to be tilted that way. I know that there is no known agent in the materia medica that will untilt the lens. The tilting in my two eyes, when I was a boy, was enough to produce 2.5 D of lenticular astigmatism for neutralizing the corneal error. The astigmatism began to unfold itself as I grew older, and as it unfolded I wore increasingly strong cylinders until the total astigmatism became equal to the corneal astigmatism. This lens-tilting must be done by Bowman's muscle. This muscle consists of radiating fibers which are under the control of the sympathetic nervous system—the superior cervical sympathetic, probably. We do not know of any agent that will control Bowman's muscle. As we grow older the muscle becomes tired and the lens untilts. I am satisfied that there is dynamic tilting of the lens inside of the eye when the corneal astigmatism and the total refraction do not correspond. Does not the hardening of the lens as we grow older have something to do with the increase in refraction, calling for a stronger myopic or a weaker hyperopic lens? We know that the elasticity of the lens goes after a while and we have to give presbyopic lenses of increasing power to correct the advancing presbyopia.

Dr. Mark D. Stevenson, Akron, O.: This work of Dr. Zentmayer's is not an attempt at an explanation, but an analysis of the changes found in the cases, and is of great importance Since in Philadelphia they use atropin we can practicall eliminate the action of the ciliary muscle or anything but th real astigmatism. In my own cases of long standing I fo merly used homatropin, but I have now also come to th atropin standard in younger people. One thing that struck me as different from my own results, as I recall them, is the statement that there is not a greater tendency for compound myopic astigmatism to change than of compound hyperopic astigmatism.

Dr. Hiram Woods, Baltimore: The general statements of Dr. Zentmayer's paper are undoubtedly correct. We do get changes in the axes of astigmatism. At the same time there is one thing that Dr. Risley pointed out some years ago and it is just as well to bear it in mind: Nearly all of the changes are in the direction of a change in refraction. Dr. Risley suggested in his paper that astigmatism is the turnstile of progressive myopia and he insisted that we have cycloplegia before we draw conclusions as to what the static refraction is: in other words, the mere use of atropin or scopolamin, or whatever you choose, with dilated pupil and inability to read, is not cycloplegia necessarily, and when you contrast one result with another you want to know that you have complete cycloplegia. Dr. Risley lays this down emphatically with reference to myopic astigmatism. I recollect a case recently in a child who had a myopia of 1 D. at her first visit. I had not seen her for two years when she came in with an apparent increase of the myopia to 3 D. Atropin was used the first day and the myopia lessened, steadily decreasing for three or four days until at the end of a week there was only about 50 per cent. of the apparent increase on the first day. I would not have had any way of knowing that except by the prolonged use of the cycloplegia. I am quite confident that in increasing myopia in young people the first day or two the cycloplegic does not always give complete relaxation.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: When some men speak of a mydriatic they mean a cycloplegic. It should be remembered that there is a great difference between a cycloplegic and a mydriatic. A cycloplegic is always a mydriatic, but a mydriatic is not always a cycloplegic. I am a firm believer in the use of a cycloplegic that thoroughly paralyzes the accommodation. I have noticed a change in the refraction of patients examined under homatropin three or four years previously, and under the impression that the cycloplegia was complete, I concluded that the change in the refraction was due to changes in the shape of the eye itself or in the shape of the lens. Later when hyoscin or atropin was used, with still different results, I became convinced that the changes noted were not always due to changes in the shape of the eye or the lens, but rather to failure in previous instances to secure complete cycloplegia. The practical point of this paper, to my mind, is the demonstration of the fact that there is a change in the eye itself, and that the change cannot be attributed to faulty cycloplegia. It also emphasizes a point which should not be forgotten, and that is that we are not warranted in supposing that patients refracted by others have been refracted improperly because we obtained different results several years later.

Dr. William Zentmayer, Philadelphia: Most of the discussion that has taken place has been based on just what led me to analyze my cases, just from preconceived ideas, without any statistical results to base them on. I was perfectly familiar with the astigmatism produced by a chalazion. My own case is one which was refracted under atropin twenty-five years ago and had one-half diopter of hyperopia and one-half diopter of astigmatism. I am now using an axis of 95 in one eye and 100 in the other. To show how uncertain after all any prognosis in regard to refractive changes must be, the day before I left Philadelphia I saw a patient whom I had refracted twenty years ago who had a low hyperopic astigmatism in one eye and a low myopic astigmatism in the other eye. She came back at the end of twenty years for presbyopia. I went over the eyes with the result that the patient is now wearing the same glasses she wore twenty years ago. In regard to the theory of these changes I left that alone; I simply wanted to present a statistical paper.

As Dr. Woods says, we have no very definite way of knowing whether we have absolute cycloplegia, but I believe the way I use my atropin is pretty certain to give complete cycloplegia. I use 1 per cent. solution and instil 2 drops into each eye two days before the test. I almost invariably test my patients three times. Of course, if the first two tests concur I do not test them again. That is practically five days of atropin cycloplegia. In regard to the use of the ophthalmometer it was first done before the instrument was used and I could not make a complete study in that way.

Dr. Savage: When was the cornea first measured with the ophthalmometer?

Dr. Zentmayer: Twenty-five years ago.

Dr. Savage: Did it differ much from what it is now in the corneal astigmatism?

Dr. Zentmayer: It has apparently changed in my case.

THE EFFECT OF THE INGESTION OF ALCOHOL ON THE RESULT OF THE COMPLEMENT FIXATION TEST IN SYPHILIS

A PRELIMINARY NOTE *

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In this preliminary note we desire to place on record certain observations regarding the effect of the ingestion of alcohol on the Wassermann test. We have found that alcohol, when taken in considerable quantities, possesses the power of rendering the strongest positive serum negative, and that this negative reaction persists for a few hours to several days. These observations are of both practical and scientific interest and we hope, in a later contribution, to discuss them more at length.

The discovery that alcohol possesses this property was made during routine tests of the blood of a patient who had received salvarsan, and has since been confirmed in eight other cases.

The technic used in making the tests has been that usually employed in this laboratory, following closely the modification of the Wassermann test recommended by Noguchi, with the exception that an alcoholic extract of fetal luetic liver is used as antigen and the serums to be tested are inactivated before use.

As the case in which this phenomenon was first noted is of special interest in this connection it will be discussed in detail, while the results in the other cases are shown in the accompanying table. In this report the sign ++ indicates absolute inhibition of hemolysis; + over 50 per cent. of inhibition; and +— anything below 50 per cent. of inhibition.

Case 1. Male, 41 years of age. Infected in 1904. Now has palmar lesions. Feb. 25, 1911, 0.5 gm. of salvarsan was administered intravenously, the Wassermann test before administration giving a plus reaction. Between this date and April 7, 1911, his blood was tested five times, the reaction four times being double-plus, and the last test, on April 7, being plus. April 8 his blood was again tested and was found to be negative. This result was unusual and on inquiry we learned that on the night of April 7, he had drank about 700 c.c. of Munich beer. His blood was tested again on April 12, and gave a double-plus reaction. Believing that the beer might have had something to do with the sudden disappearance of the reaction in this case, we asked him to repeat the beer on the night of April 14, which he did and on the morning of April 15 the reaction was again negative. On the 17th it had become plus and on the 22d again double-plus.

These results indicating that the disappearance of the reaction was due to the ingestion of alcohol we decided to repeat the experiments on other cases and the table which follows gives the results we obtained in nine luetic

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* From the Bacteriologic Laboratories of the Army Medical School, Washington, D. C.

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patients, who, before the administration of alcohol, gave a double-plus Wassermann reaction.

Of the nine cases included in the table three were in the secondary and six in the tertiary stage of the disease. The quantity of alcohol administered varied somewhat, but in every case the reaction disappeared after its administration. The smallest amount of alcohol administered was 180 c.c. of whisky containing approximately 90 c.c. of alcohol and in most of the cases the blood was tested one hour before the administration of alcohol was begun as well as afterward. The study of the table will disclose the fact that in five of the cases the reaction was negative one hour after the last dose of alcohol had been given, and that in all the cases the reaction remained negative for several hours and in some of them for a much longer time. Thus in Cases 4, 5 and 6, the reaction remained negative for over twenty-four hours and in Case 9 for three days. Two of the patients had received salvarsan before the alcohol was administered, but in one case this was given so long before that it could have had no effect on the reaction, while in the other the fact that the reaction became double-plus again, after becoming negative from the alcohol administered, indicates that the salvarsan had nothing to do with its disappearance.

We have instituted some experiments on luetic rabbits with the intention of working out the exact time of disappearance of the complement fixation test after the administration of alcohol and its reappearance, and the amount of the drug necessary to produce this result, and we hope to report on these experiments later.

At the present time it is impossible for us to explain this effect of the ingestion of alcohol on the complement fixation test. That it is not due to the actual presence of alcohol in the blood-serum tested, is evident from the fact that a much larger quantity of alcohol is necessary to produce hemolysis than could possibly be present in the serum. For example, we have found that it requires at least 0.15 c.c. of absolute alcohol to produce complete hemolysis of 1 c.c. of a 1 per cent. suspension of human red corpuscles, within the standard time, whereas only 0.08 c.c. of the patient's serum is used in making the complement fixation test in this laboratory. It is thus evident that if the serum were absolute alcohol the quantity used could not produce hemolysis.

It is evident that in syphilis some substance is present in the blood-serum which reacts with a suitable antigen and that this substance depends on the presence of the spirochetes, for when these disappear in experimental animals the reaction also disappears. This specific substance may be viewed as either an antibody produced by the reaction of the tissues to the living or dead spirochetes or as a chemical substance, not in the nature of an antibody, which results from the decomposition of the tissues by the spirochetes, or is derived from the parasites. The action of alcohol demonstrated above could be used as an argument in favor of the former view—the drug causing an inhibition or destruction of the antibody which unites with the antigen in the complement fixation test, but it could also be used as an equally strong argument in favor of the latter view. It may well be, however, that the antibody concerned in the Wassermann reaction is of a protective nature and that its neutralization or destruction by alcohol explains the injurious effect of this drug on luetics, for it is well known that in patients suffering from this disease the symptoms are greatly intensified by the use of alcohol.

There has been some work accomplished demonstrating that alcohol reduces the amount of opsonins and agglutinins in human blood-serum, and further research

TABLE ILLUSTRATING THE EFFECT OF THE INGESTION OF ALCOHOL ON THE COMPLEMENT FIXATION TEST IN LUES

Case No.	Stage of Disease	Reaction Before Alcohol Date	Alcohol Given		Dates and Results of Tests After Administration of Alcohol.			Remarks
			Date	Amount	Date	Time	Result	
1	3	First test + April 1, 1911.	4/ 7/11	About 700 c.c. Munich beer in evening	4/ 8	9:00 a. m.	—	0.5 gm. salvarsan Feb. 24, 1911
		Second test ++ Apr. 12, 1911.	4/14/11	700 c.c. same beer between 10 p. m and 12 midnight.	4/12	9:00 a. m.	++	
					4/15	9:00 a. m.	—	
					4/17	9:00 a. m.	+	
					4/22	9:00 a. m.	++	
2	2	++ May 19, 1911.	5/20/11	90 c.c. of 95 per cent. alcohol by mouth from 7 a. m. to 7 p. m.	5/20	7:30 p. m.	+	No salvarsan.
					5/21	10:00 a. m.	—	
					5/22	10:00 a. m.	+—	
					5/23	10:00 a. m.	++	
					5/24	10:00 a. m.	++	
3	3	++ May 29, 1911, one hour before alcohol.	5/29/11	240 c.c. whiskey between 10 a. m. and 5 p. m.	5/29	6:00 p. m.	+	No salvarsan.
					5/30	6:00 a. m.	—	
					5/31	10:00 a. m.	+	
					6/ 1	10:00 a. m.	++	
					6/ 2	10:00 a. m.	++	
4	3	++ June 3,'11, one hour before alcohol.	6/ 3/11	240 c.c. of whiskey between 10 a. m. and 6 p. m.	6/ 3	8:00 p. m.	—	No salvarsan.
					6/ 4	7:00 a. m.	—	
					6/ 5	10:00 a. m.	+	
					6/ 6	10:00 a. m.	++	
5	2	++ June 4,'11, day before alcohol.	6/ 5/11	180 c.c. whiskey between 9 a. m. and 6 p. m.	6/ 5	8:00 p. m.	—	
					6/ 6	8:00 a. m.	—	No salvarsan.
					6/ 7	8:00 a. m.	++	
					6/ 8	8:00 a. m.	++	
6	2	++ June 22, 1911, one hour before alcohol.	6/22/11	240 c.c. of whiskey between 9 a. m. and 7 p. m.	6/23	9:00 a. m.	—	
					6/23	8:00 p. m.	—	0.6 gm. salvarsan, June 19, intramuscular.
					6/24	9:00 a. m.	+—	
					6/25	9:00 a. m.	++	
					6/26	9:00 a. m.	++	
7	3	++ June 29, 1911, one hour before alcohol.	6/29/11	240 c.c. of whiskey between 10 a. m and 5 p. m.	6/29	6:00 p. m.	+—	
					6/30	6:00 a. m.	—	No salvarsan.
					7/ 1	6:00 a. m.	+	
					7/ 2	6:00 a. m.	++	
					7/ 3	6:00 a. m.	++	
8	3	++ July 7,'11, one hour before alcohol.	7/ 7/11	240 c.c. of whiskey between 12 m. and 7 p. m.	7/ 7	8:00 p. m.	—	
					7/ 8	1:00 p. m.	—	
					7/ 9	1:00 p. m.	++	No salvarsan.
					7/10	1:00 p. m.	++	
9	3	++ July 7,'11, one hour before alcohol.	7/ 7/11	240 c.c. whiskey between 12 m. and 7 p. m.	7/ 8	1:00 p. m.	—	
					7/ 9	1:00 p. m.	—	
					7/10	1:00 p. m.	—	
					7/11	1:00 p. m.	+—	No salvarsan.
					7/12	1:00 p. m.	+	
					7/13	1:00 p. m.	++	
					7/14	1:00 p. m.	++	

may show that this drug has a profound effect on the protective antibodies which may be produced during the progress of syphilis or of other diseases.

From the practical standpoint these observations demonstrate that no dependence can be placed on a negative Wassermann reaction in individuals who have, within twenty-four hours of the collection of the blood, ingested considerable amounts of alcohol, while in some instances the drug may render the reaction negative for as long as three days. We have not, as yet, tried the effect of alcohol in smaller doses on cases giving a plus or plus-minus reaction, but it is probable that the drug will be found to have a still more decided effect on weaker reactions, and it is certain that with the amounts used in the experiments, the strongest positive serum would give a negative result. Careful inquiry, therefore, should be made regarding recent use of alcohol before collecting serums for the complement fixation test in lues.

We desire to express our thanks to Major Walter D. Webb, Medical Corps, U. S. A., retired, and to Captain Harold W. Jones, Medical Corps, U. S. A., for the valued assistance which made these observations possible.

AN EXPERIMENTAL DEMONSTRATION OF THE PRESENCE OF THE VIRUS OF MEASLES IN THE MIXED BUCCAL AND NASAL SECRETIONS*

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In our previous communications[1] we have shown that the monkey (*Macacus rhesus* and *Macacus cynomolgus*) is susceptible to the infection of measles when inoculated with the blood obtained from a human case late in the preeruptive stage or within twenty-four hours after the first appearance of the eruption. Following such an inoculation,[2] at least 50 per cent. of the animals react in a characteristic manner. After a variable incubation period of not less than five days there is a more or less marked rise in temperature with or without catarrhal symptoms referable to the respiratory passages, such as sneezing and cough, and with or without an exanthem.

About half the animals inoculated fail to present definitely recognizable symptoms. In other words, the disease in the monkey is subject to great variation, the variations corresponding to those that have been described in the human subject and presenting in some respects similar difficulties of diagnosis. On this account we have found it necessary to use at least two animals for each test. Animals that have given a characteristic reaction do not react to a second inoculation; but this test, so valuable in the diagnosis of a previous reaction in other conditions, is, for obvious reasons, when negative, of much less significance in measles.

Our first clearly defined reaction in the monkey followed inoculation with defibrinated blood from our Case 4; and it may be recalled that we were successful in inoculating a second series of monkeys by passage from the first. We maintained this strain of measles virus by passage from monkey to monkey until very recently when, because of the exigencies of our work, we were obliged to discontinue it. In all, this strain was carried through six monkey generations during the period from May 16 to June 29, 1911. We were unable to detect any definite alteration in the virulence of this virus as the result of passage.

Besides the strain from Case 4 we obtained a strain from the blood of Case 6, and this we propagated by blood inoculations through three monkey generations. There being no further need for it, this strain was dropped.

Having satisfied ourselves of the susceptibility of the monkey to the virus of measles, we turned our attention to the question of the mode of transmission of the disease. We first decided to test its transmissibility by "contact." Accordingly, on June 17, we placed a young Java monkey (*Macacus cynomolgus*) in the cage with rhesus No. 83. The latter animal was at this time in the fourth day of an attack characterized by frequent sneezing and coughing and the presence of an abundant eruption. After a stay of six days with this animal, the young Java was moved, on June 23, to a cage with another sick monkey, rhesus No. 93b. At the time of this transfer, rhesus No. 93b was in the fifth day of an attack marked by a sharp febrile reaction, cough and an abundant eruption. Five days after being placed in this cage and eleven days after being placed with rhesus No. 83, the Java was again moved, this time to the cage with rhesus No. 103a. On the same day, June 28, it was noted that his temperature, which had previously not been above 39.4°, rose to 40° C. Five days later he presented an eruption which was more abundant the following day, then faded rapidly without appreciable desquamation. We conclude, therefore, that this Java monkey (*Macacus cynomolgus*) was infected by "contact" either with rhesus No. 83 or rhesus No. 93b. We have obtained a similar result in another such experiment. In this connection, Chavigny's[3] observation and Josias'[4] experiments are of interest.

Chavigny reported that a monkey which had been in close contact with a human case of measles in the person of its keeper developed the disease. Josias, inspired by Chavigny's observation, made a variety of attempts to infect monkeys with measles. In one of his experiments he allowed a monkey to play about in a measles ward for a period of six months, with a negative result.

While the foregoing experiment was in progress an opportunity to obtain nasal and buccal secretions from a human case presented itself. We took advantage of the opportunity to test the infectivity of these secretions.

On June 20, through the courtesy of Dr. William R. Jobson, of the Children's Hospital, we obtained some buccal, pharyngeal and nasal secretion from a patient (Case 7) in the fifth day, or about 24 hours after the first appearance of the eruption of a well-marked attack of measles. Buccal and pharyngeal secretion was collected on a sterile swab and by having the patient gargle with physiological salt solution. In addition, three swabs of nasal secretion were obtained. Within four hours after it was obtained, we inoculated three rhesus monkeys with this material.

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* From the Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service.

[1] Anderson, John F., and Goldberger, Joseph: Experimental Measles in the Monkey: a preliminary note, Public Health Reports, June 9, 1911, xxvi, 847; Experimental Measles in the Monkey: a supplemental note, Public Health Reports, June 16, 1911, xxvi, 887; The Period of Infectivity of the Blood in Measles, THE JOURNAL A. M. A., July 8, 1911, lvii, 113-114.

[2] We prefer the intravenous injection and for this purpose have found the external saphenous vein very well suited. A slender, very sharp pointed needle is essential, however, for success in entering the vein

[3] Chavigny, Paul: Un cas de rougeole chez un singe, Bull. méd., Paris, 1898, xii, No. 20, pp. 334-335.

[4] Josias, Albert: Recherches experimentale sur la transmissibilité de la rougeole aux animaux, Méd. Moderne, Paris, 1898 ix, 153-154.

Rhesus No. 94a had the nose, mouth and pharynx liberally sprayed with some of the diluted buccal and pharyngeal secretion; incidentally he was forced to swallow some of it. After spraying, the mouth, palate and fauces were well rubbed with the swab that had been used to collect buccal secretion and with one swab of nasal secretion.

Rhesus No. 94b was treated in exactly the same way as rhesus No. 94a, except that in swabbing the mouth, palate and fauces two swabs of nasal secretion alone were used.

Rhesus No. 95 was given 5 c.c. of the diluted buccal and pharyngeal secretion subcutaneously. This, and later subcutaneous inoculations with mixed buccal and nasal secretions, were made just under the skin of the ventral aspect of the thigh about midway between knee and groin. Following this inoculation, rhesus No. 95 rapidly developed an abscess at the site of injection; within three days it opened spontaneously, discharging the contained pus, after which the abscess cavity healed rapidly.

During a period of observation of twenty-eight days, none of these animals gave any recognizable evidence of a reaction. This would appear to indicate that the secretions, nasal, buccal and pharyngeal, from this patient were not infective at the time they were collected.

For access to a second patient from whom we obtained secretions we are indebted to Dr. Jesse Ramsburgh. This patient (Case 8) was a boy of six years of age. He was taken sick during the night or early in the morning of June 26, 1911. The eruption began to appear the morning of June 29. At 10 a. m., a beginning eruption was present on the face and neck. Buccal, pharyngeal and nasal secretion was collected at this time. This was done by spraying the boy's nose and throat with salt solution and then having him blow his nose and expectorate into a sterile conical glass.

The spraying of the throat caused some retching, during which he expectorated a little blood-streaked mucus. This specimen was set aside, while another was collected, the latter not being appreciably blood-stained but having mixed with it a drop of lacrimal secretion. With the material so collected we inoculated two monkeys:

Rhesus No. 104a received subcutaneously at 1:20 p. m., June 29, about 1.5 c.c. of the slightly diluted mixture of buccal, nasal and lacrimal secretion.

Rhesus No. 104b received subcutaneously at 1:25 p. m., June 29, about 2 c.c. of the slightly diluted nasal and buccal secretion containing the drop of blood.

In both animals an abscess rapidly formed at the site of injection which, at the end of 3 or 4 days either discharged spontaneously or was incised to permit of the evacuation of the pus that had formed.

In both animals the temperature, which was high at first, came down to some extent with the discharge of the pus. Later the temperature again rose in both animals and both developed well-marked eruptions. In the case of rhesus 104b the first appearance of the eruption was noted the morning of July 7. At 11:30 a. m. of the same day, this animal was bled and the defibrinated blood used for the inoculation of two rhesus monkeys, No. 110a and No. 110b. One of these (No. 110a) after an incubation period of eight days, developed a characteristic reaction; in the other (No. 110b) the reaction was not so well defined. Cultures at 37° C. of some of the defibrinated blood from rhesus No. 104b in standard bouillon showed no visible evidence of growth seven days later.

On June 30 we again collected buccal and nasal secretion from Dr. Ramsburgh's patient (Case 8), now about twenty-four hours after the first appearance of the eruption. This we used for the inoculation of two monkeys, rhesus No. 106a and rhesus No. 106b, each receiving 3 c.c. subcutaneously. Both animals developed abscesses at the site of injection. One of them, No. 106a, was found dead on the morning of July 3, death being due apparently to an acute septicemia. On the same day the abscess in the other monkey (No. 106b) opened and discharged spontaneously and the temperature, which had risen a little, declined to normal and remained at this level during the rest of the period of observation.

We collected buccal and nasal secretion a third time from Dr. Ramsburgh's patient (Case 8), July 1, forty-eight hours after the first appearance of the eruption. At this time the eruption was abundant and bright on trunk and limbs, but was fading on the face. This third specimen we used as we did the first and the second for the inoculation of two monkeys, rhesus No. 109a and No. 109b, each receiving 2 c.c. subcutaneously. Both rapidly developed abscesses which were opened in forty-eight hours. With the evacuation of the pus, the temperature, which was at first high, declined and the wounds rapidly healed. Later the temperature of both animals rose and in each the characteristic eruption made its appearance.

One of these animals (No. 109b) was selected for the purpose of passage. The eruption in this monkey was first noted July 10, just ten days after the inoculation. About twenty-four hours after its appearance, we aspirated about 10 c.c. of blood from the heart, and after defibrination used it for the intravenous inoculation of two rhesus monkeys, Nos. 111a and 111b. Cultures at 37° C. of some of the defibrinated blood in standard bouillon showed the presence of a small, slow-growing coccus.

Six days after inoculation, rhesus No. 111a manifested a slight rise in temperature and on the following day we noted the beginning of what proved to be a well-marked eruption. The other (No. 111b) of this pair of monkeys has, at this writing, fourteen days after inoculation, manifested no appreciable indication of a reaction.

The results of these serial inoculations clearly indicate that the mixed buccal and nasal secretions were certainly infective at the time of the first appearance of the eruption and again forty-eight hours later, that is, early in the fourth day and early in the sixth day of the disease, and that this infectivity was due to a living virus susceptible of transfer from monkey to monkey by blood inoculation.

In view of our experience, which strongly indicates that a rapid reduction in the virulence of the blood sets in at the end of about twenty-four hours from the first appearance of the eruption, that is, after four and a half to five days from the beginning of the disease, it would appear that the duration of the full infectivity of the blood does not run parallel with that of the mixed buccal and nasal secretions.

Although clinical observations and Mayr's[5] experiments on the human subject had made it practically certain that the buccal and nasal secretions were infective, the results here reported are, we believe, the first to be obtained under conditions excluding other possible sources of infection, and therefore convincingly demonstrate the presence of the virus of measles in the buccal and nasal secretions.

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[5] Mayr, Franz: Beobachtungen über Masern, etc., Ztschr. d. k.k. Gesellsch. d. Aertze zu Wien, 1852, i, 13-14.

Twenty-Fifth and E Streets, N. W.

VARIOLA AND VACCINATION

HERBERT W. KNIGHT, M.D.
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The study of disease in municipalities or in places where large collections of statistics are available, gives one the advantage of being able to establish principles. Distinctive features of disease, however, are best elucidated if viewed in a sparsely settled region.

ADVANTAGES OF VACCINATION

Therefore, I have been led to a personal study of small-pox and vaccination such as will warrant the following conclusions:

1. Successful vaccination prevented the contraction of small-pox.
2. One successful vaccination in children of school age prevented the spread of small-pox to numerous homes.
3. A vaccination after exposure and prior to the completion of the incubation period was unsuccessful in preventing the disease or lessening its severity.
4. As exposure is possible at any age and under almost any condition and as the effect of vaccination after exposure is uncertain, the most rational course is vaccination at stated intervals, such as infancy, school age, and early maturity.
5. Mild small-pox caused more invalidism than vaccination if properly performed. In twenty-three cases of small-pox there was one case of invalidism. In 256 cases of vaccination with virus derived from a reliable source and with strict surgical asepsis, there were no complications from the operation.
6. Immunity to small-pox renders vaccination ineffective.
7. Immunity produced by a previous attack of small-pox had limitations of effectiveness as well as immunity produced by vaccination.
8. Low temperature and the severity of the disease were in direct relation to each other.

FIRST SERIES OF CASES

In Wells, Bradford County, Pa., in September, 1906, Patient 1, a young man (unvaccinated) came from North Dakota via the Great Lakes. In less than two weeks from the time he arrived at his father's farm in Wells Township, he developed variola, but the disease was unrecognized by Dr. S. His father and mother, Patients 2 and 3 (both unvaccinated), contracted the disease about two weeks after exposure.

Patient 4 (unvaccinated) visited Patient 2 and in fourteen days developed the disease in a mild form. The brother of Patient 4 (Patient 5), who was unvaccinated, contracted the disease in a more severe form than appeared in Patient 4, just two weeks from the time of exposure. Patient 5 then went to another township, where he was quarantined. Patient 4 went to H. B.'s farm to work before he had recovered. H. B. and two of his children, who attended the graded school of Wells Township, were all vaccinated and did not contract the disease; while the wife and two children (Patients 6, 7 and 8), under school age (all unvaccinated), contracted the disease in a mild form.

Patient 9 (unvaccinated) slept with Patient 4 at H. B.'s farm and went home sick with small-pox. The brother (Patient 10, unvaccinated) of Patient 9 contracted the disease from him, while three others who were vaccinated escaped the contagion.

Patients 11, 12, 13 and 14 (husband and wife and two children, all unvaccinated) contracted small-pox from Patient 9 by calling at the house; while two of the children of Patient 11 (vaccinated), who attended the graded school, did not contract the disease.

Patients 15, 16 and 17 (husband and wife and their son, all unvaccinated) and Patient 18 (husband of the daughter of Patient 15, also unvaccinated) contracted small-pox, while the daughter (vaccinated) remained immune.

There seems to be a relationship between the severity of the weather and the intensity of the disease manifestations. The weather was the most severe when Patient 15 was afflicted. He developed the most pronounced case of any, and has never regained his former health.

While still desquamating, Patient 4 worked with a threshing outfit belonging to H. R. (unvaccinated), who had had cow-pox and who did not contract the disease even though he slept with Patient 4; also vaccination was negative. All other members of the outfit were vaccinated. The threshers were at eleven farms on the Christian Hollow Road in Southport Township, Chemung County, N. Y. These were referred to Dr. Henry Flood, the health officer, who reported the cases of Patients 19, 20 and 21, residing at one of the farms, as follows: "She (Patient 19) was found in the early manifestations of the disease and also two unvaccinated persons (Patients 20 and 21), who, on being vaccinated, gained such protection that they developed only initial symptoms of the disease, even though in constant contact."

There were twenty-one cases from the North Dakota source, extending over a period of five months, which were unrecognized by three physicians, all of whom saw the cases at some time during the course of the disease. The county medical inspectors, who were present, concurred in the diagnosis of small-pox, and accepted the report from which this paper is drawn, were Dr. S. P. Hakes, Tioga, Pa., and Dr. S. M. Woodburn, Towanda, Pa.

SECOND SERIES OF CASES

The Watkins health officer notified the authorities in Wells Township that a child had been sent to that place after being exposed to small-pox. This child, C. B., Patient 22, was never vaccinated and had had chicken-pox prior to this time. She had been slightly sick for a week with an eruption of a pustular type and had been attending the graded school of Wells Township meanwhile. This school has two departments and every pupil had been successfully vaccinated the previous year. The two teachers were not vaccinated at that time, but both were vaccinated about Jan. 12, 1907. The vaccination of the B. child's teacher started to work, then disappeared when the small-pox made its appearance. This teacher (Patient 23) developed a marked case of mild small-pox and more pronounced than that of the child from whom she contracted the disease. The weather was more severe at that time. The other teacher developed a good pock from vaccination and escaped variola by its protection.

C. B. and H. B., brothers, had had small-pox in the epidemic of 1875, and both were vaccinated in January, 1907. There was a successful take in each instance. Immunity to small-pox runs out in time, at least from vaccination. H. K. was vaccinated and revaccinated for a successful take in 1876, by scabs from cow-pox cases, and both worked at one time, though several vaccinations failed to operate in 1906: also exposure to all stages of small-pox in 1906 and 1907 failed to produce the disease. H. K.'s wife had been successfully vaccinated at intervals three times, and a vaccination would not take in 1906. The child, 2 years old, was successfully vaccinated in 1906. There was a large number vaccinated in 1875, in Wells, when there was a severe epidemic and the scab method was used which protected against small-pox and vaccination in 1906.

If the pupils of the graded school of Wells had not been vaccinated the year previous, then the two children from each of two farms of the first series might have contracted the disease at home, and would have exposed the entire school of unvaccinated children, who would have scattered the disease broadcast. In place of only two cases of the second series, there would have been a condition similar to the one just described. Think of children being exposed to small-pox for a week and not a single vaccinated one contracting the disease, while the only unvaccinated person became a victim!

The first move in controlling this epidemic was quarantine and vaccination in all cases of exposure, and also vaccination of all others who would accept of free service. All persons who had the disease were given an aseptic bath and their dwellings were fumigated. The result was that from the time that the state was notified, to the close of the epidemic, there was only one new case.

Every compulsory law is unpopular with many of those who are obliged to comply with it, and vaccination comes in this class. In the Baltimore *American* a layman has been making a series of attacks on vaccination, quoting various sources in part and then adding data of a questionable source. The following is an illustrative quotation from an open letter in the series of attacks mentioned which gives certain data without stating the relationship. This shows an intent to delude:

> The smallpox death-rate before vaccination was 18 per cent.; to-day, after over one hundred years of vaccination, it is much more deadly. In Japan, the best vaccinated country on earth, it is 32 per cent. To come home: Philadelphia shows (Welch's figures) 30 per cent.; Chicago, 27 per cent.; Cleveland, 25 per cent.; New York, 28 per cent.; while the United States Army (Philippines), 1898-1901, was 35 per cent. With these facts before us and a death-rate practically doubled, are we not justified in saying this increase is due to vaccination? If not, why not?

This is a malicious juggling of percentages like the devil quoting Scripture. Before the year 1800, small-pox claimed 10 per cent. of all deaths; since 1800, it has claimed 1 per cent. of all deaths in the United Kingdom, according to Parkes' "Hygiene."

The able article of Dr. S. Kitasato,[1] of Tokyo, will show the real value of vaccination in Japan.

According to the reports from the Philippines, prior to United States occupancy, there were 6,000 deaths a year from small-pox. In 1905-1906, 3,094,635 vaccinations were performed without loss of life or serious infection resulting therefrom. Since the completion of the vaccination, there has not been a single death from small-pox.

I sent the following quotation from the open letter previously cited, to Dr. E. H. Porter, New York State Commissioner of Health, with a request for an explanation:

> Dr. Vivefoy, of Rouen, France, said: "The vaccinators are, in my opinion, the most stupid and dangerous creatures under the sun." They know that vaccination is killing children all over the country from diseases a thousand times worse than small-pox, and they are criminals if they continue it. Every vaccination is a ghastly risk of manslaughter, for they don't know what they are using. In 1908 there were 866 cases of small-pox with three deaths in New York state. In that same year and same state there were at least five deaths from vaccination and "thousands of cases of serious injury," caused by the blood-poisoning swindle.

Dr. Porter's reply is so pertinent here that it will be given entire:

> *Dear Doctor:* There is, as stated in the quotation made in your letter of November 23, a record of 866 cases of small-pox reported in this state in 1908, and likewise of three deaths. *The type of the disease was exceedingly mild.*
>
> We have no record of the number of persons vaccinated during the year, but it was exceedingly large, as the law excluding unvaccinated persons from the public schools is widely enforced, and vaccination outside of this has been pressed, especially in the 125 municipalities in which, during that year, small-pox occurred. Since the certificates of death occurring in the state, outside the metropolis, come to this department for filing, the reported causes of death are subject to our inspection. I do not know the source of information *on which the statement of five deaths from vaccination is based.* There were during the year two cases so reported. Following the custom of the department these were investigated. The first occurred in April; a boy in fair health was vaccinated under proper precautions, without result, i. e., the vaccination did not take and there was no reaction of any sort until two weeks afterward, when about the site of vaccination an area of hyperemia suddenly developed, a bleb formed followed by gangrene beneath, and the boy died in three days, manifestly from anthrax toxemia. This could not have been vaccinal, because the incubation period of anthrax is from a few hours to three or four days and cannot possibly be fifteen days, since anthrax is not a bovine disease, and the same vaccine virus was used simultaneously on other children without untoward result. I know of no record of anthrax associated with vaccination. This infection was postvaccinal and chanced to have been inoculated at the vaccination abrasion.
>
> The other case was one in which forty days after vaccination of an adult, who had been vaccinated in childhood and who likewise had no vaccinal reaction, acute pemphigus developed and was fatal after four weeks from onset. It is not impossible that this case was one which might come in the category of certain cases of acute bullous dermatitis occurring in persons having to do with animal products which have been reported. But the causes of pemphigus are very problematic, and it would be difficult to explain why the virus in this case introduced by a most careful physician should have been the cause of this sequence, when the same virus precisely, used by him on other persons, had no such ill effect.
>
> I have good ground for saying that in twenty-five years there have not been five deaths from vaccination in this state. If vaccination had not been done at all in 1908 how many cases and deaths would there have been from small-pox? All who were vaccinated, or had been within recent time, escaped it, of which we have full evidence. At Wappinger Falls in 1908, small-pox became epidemic and the health officer vaccinated practically every person in the village, stopping the outbreak at once, although it was very prevalent in near-by cities. It can be confidently asserted that if every person in this state were vaccinated, small-pox could occur here only by importation and would in that case be negligible, since no one would run risk by contact with it. By persistently pressing the antidote we are so far rid of the bane that for a good part of this year the state has been almost free from it.
>
> The evidence of its mild type shown by but three deaths in 866 cases is no warrant for regarding small-pox as other than a pestilence to be fought uncompromisingly. That is the position taken by this department

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[1] Kitasato, S.: Vaccination and Small-Pox in Japan, The Journal A. M. A., March 25, 1911, p. 889.

No one will say that vaccination is entirely devoid of risk, but if its rational requirements are met the risk is negligible, not only of death but of "serious injury caused by blood-poisoning," which is alleged in the communication cited by you. This is of a piece with the extravagant statements that a small number of people obsessed with the antivaccination idea use. There is no such thing. Some watch of untoward effects of vaccination has been kept. In 1908 there was one locality where a very considerable epidemic of small-pox, with one fatal case, was combated energetically by the health officer, whose vaccination unfortunately was followed largely by bad arms; in this case the virus was found on laboratory test to contain an abnormal micro-organism. This is not to be expected and is impossible in good virus chiefly used. Vaccination is doubtless not always done with scrupulous care, nor are its subjects always intelligent in protecting it from extraneous infection: but we are educating the people so that now even the slighter ill results rarely occur. We have little hope of ever converting to sanity the possibly conscientious propagandists of the cult of antivaccination, but we are confident that the small body comprising their number and the misinformation and misstatement which form the basis of their contention will never induce the legislators of this state to remove from the statute-book the moderate compulsory vaccination laws we now have, or induce those caring for the public health to accept any one of their arguments.

Eugene H. Porter, Commissioner of Health.

It would be unnecessary, even if space permitted, to refute in detail the other errors and misstatements of the writer in the Baltimore *American*. The example given here indicates the worth of the rest of the assertions of the writer.

THE THERAPEUTIC VALUE OF SODIUM CACODYLATE

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At the eighth annual meeting of this society, May, 1907, there was presented a paper embodying the results of certain investigations by Holmes C. Jackson and myself entitled, "The Physiologic Action, Elimination and Therapeutic Application of Sodium Cacodylate, Used Hypodermatically."[1]

Inasmuch as certain authorities have so emphatically insisted that sodium cacodylate is possessed of no arsenical properties, either physiologic or therapeutic,[2] it may not be amiss for me to summarize our findings as to that particular point and, at the same time, to state that other observers, notably Runnels,[3] have confirmed many of our statements.

Our experiments were conducted with great care at Bender Hygienic Laboratory in Albany, N. Y., and were made not only on dogs and rabbits, but on human beings. We found that the body possesses the power of decomposing the organic compound into an active inorganic form when injected intramuscularly; that it is eliminated in the form of arsenates by the urine and feces; the urine of patients under its influence yields arsenates and reacts to Marsh's test; it has a distinct toxic effect and may be recovered in the form of inorganic arsenic in various tissues of the body, such as the liver, muscle and bone marrow.

The therapy of the hypodermatic use of sodium cacodylate is based on the observation of several thousand patients treated by me or reported to me by seventy-six other observers, many of the latter trained clinicians of wide experience. The only untoward symptom observed or reported was a transitory discomfort at the site of injection when the larger doses (0.3 to 0.6 gm.) were used.

It is generally accepted that the value of arsenic as a therapeutic agent when indicated, is limited only by its toxicity, evidenced mainly in the gastro-intestinal tract; and in my opinion herein lies the justification for the use of sodium cacodylate hypodermatically, for our experiments have showed that much of that drug is changed into inorganic arsenic, is stored in the tissues and utilized as rapidly as it can be taken care of and without effect on the mucosa of the digestive tract.

Experience has taught us that in giving small doses and in giving our injections for several days, with intervals of non-treatment for fear of toxic results, as taught by French observers, we erred on the side of prudence; and that in most cases satisfactory results were obtained only by using relatively large doses daily without intermission, and often for several weeks, this being especially so in anemias of long standing.

There have been reported to me fourteen cases of pernicious anemia in which the patients were treated with sodium cacodylate; of these, four had short periods of improvement alternating with exacerbations of the symptoms, and finally death. Of the remaining ten reported as cured, five have been but so recently discharged (three, five, six, eight and nine months) that we cannot claim them as cures, even though they are reported by careful observers and have every evidence of recovery. The last five, however, seem to be properly classed as well, for their discharges from treatment with no recurrence of the symptoms are, in point of time, respectively, fifteen months, eighteen months, twenty-two months, twenty-five months and thirty-seven months. In these five cases careful blood-counts were made at frequent intervals, and from the character of those reporting, as well as from the blood-pictures and the case histories, I have no doubt as to the correctness of the diagnosis.

The history of one case, that of the patient longest recovered, is very complete; and as the dosage used was much smaller than was used in the other cases, I give it here.

REPORT OF CASE

Case 1.—*History.*—The patient was seen Sept. 6, 1906. The diagnosis was pernicious anemia and achylia gastrica, with indigestion and loss of strength. The family history was not important. There was no history of cancer or tuberculosis. The patient had been an exceptionally healthy man; moderately hard worker; moderate in use of alcohol; excessive tobacco-chewer and smoker; had had no serious illness; weight dropped 30 pounds during the previous year. One year previously the patient had a hard attack of diarrhea lasting two weeks; lost weight rapidly during this period and became very weak, so that he was hardly able to stand. No blood was noticed in the stools. He has had other attacks since, but not so severe; has had stomach trouble for the past six years; inability to digest food properly; vomiting has occurred at intervals but has not been a pronounced symptom; no hematemesis; appetite fair; about one year ago tongue became very red and raw and very sore.

Recent Illness.—Exact date of onset was not known because the past illness merged into the present condition. In the early part of the previous summer the patient went to the seashore to improve his health, but became very weak while

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1. The Journal A. M. A., June 22, 1907, p. 2090.
2. Fraser, T. R.: The Inefficiency of the Disodic-Methyl-Arsenate as a Therapeutic Agent, Lancet, London, 1903, cliv, 304.
3. Runnels, S. C.: New York Med. Jour., Dec. 3; 1910.

there, hardly able to move about. He returned after a month unimproved and had been confined to bed since. He was very weak, could not digest food and had much distress after eating; vomited occasionally; no blood. He was troubled much with dizziness; had had diarrhea for past two weeks with semi-fluid stools; no blood noticed; sweated profusely at night and had disturbing dreams; hands cold and clammy. Patient was short of breath on exertion; had noticed no hemorrhages in the skin or from the gums.

Physical Examination.—Patient is of moderate height, musculature well developed but soft and flabby; fairly well nourished; no emaciation; panniculus present; color a peculiar lemon-yellow tint; lips and conjunctivæ pale; tongue clean; no edema of feet or legs; pulse 88; temperature subnormal; respirations normal; pulse soft, easily compressible and regular; wall not palpable; lungs clear on auscultation and percussion. Heart: impulse not seen but felt in the fifth interspace, 12 cm. from midsternal line; dulness not increased to right; systolic murmur heard all over precordium and transmitted to axilla; other sounds clear; liver and spleen not palpable; stomach not enlarged; no tenderness, no mass felt; abdomen not tender; no masses, no dulness in flanks. Ewald test breakfast gave no free hydrochloric acid; total acidity, 14; no lactic acid, no pepsin. No obstruction; urine negative.

Feces: No occult blood, mucus, parasites or ova.

Blood: Hemoglobin 55 per cent.; reds 1,200,000; whites 6,000; micro- and macrocytes; marked poikilocytosis; normoblasts present.

Course of Disease.—Sept. 22, 1906: Hemoglobin 40 to 50 per cent.; reds 736,000; whites 2,200; megaloblasts.

Oct. 11, 1906: Hemoglobin 45 per cent.; reds 864,000.

Oct. 24, 1906: Pleurisy with effusion in right chest. Blood-count, hemoglobin 40 per cent.; reds, 1,120,000; whites 4,800.

Nov. 15, 1906: Hemoglobin 55 per cent.; reds 1,750,000; whites 5,000.

Dec. 8, 1906: Hemoglobin 65 per cent.; reds 2,240,000; whites 3,000.

Jan. 9, 1907: Patient much better, up and about every day. Gained 10 pounds in weight; tongue sore, slightly swollen and appears edematous; lungs clear; hemoglobin 60 per cent.; reds 1,952,000; whites 8,000.

Feb. 28, 1907: Patient much weaker; stomach trouble has returned; gas and pain after eating; bowels very irregular with periods of diarrhea; night sweats; no loss of weight; edema of feet and legs at night; hemoglobin 39 per cent.; reds 1,696,000.

April 27, 1907: Hemoglobin 26 per cent.; reds 960,000; whites 3,000; microcytes and macrocytes, erythroblasts and megaloblasts. Patient very pale; weight about the same; edema of feet and legs at night; short of breath.

Aug., 1907: Effusion in chest returned on opposite side; patient in bed; very weak. Hemoglobin 35 per cent.; reds 2,600,000; no nucleated cells in smears.

Jan. 13, 1908: Patient feeling well recently; some shortness of breath on exertion. Hemoglobin 60 per cent.; reds 2,600,000.

April 22, 1908: General appearance good. Pruritus of general distribution. Hemoglobin 70 per cent.; reds 2,272,000; no nucleated cells in smears.

Treatment.—From September, 1906, until April, 1908, the treatment with sodium cacodylate was given without remission. The dose at the start was 0.03 gm. hypodermically, which was increased to 0.065 gm. given every three days. Dr. Kirkpatrick, who carried out the treatment, says that he believes the success attending this case was due to the sodium cacodylate, as no other specific medication was attempted at any time. No untoward symptoms were noted by him.

The patient made constant and steady general improvement, and was able to attend to his work.[4]

I have records of 410 cases of simple anemia treated by myself and by others, and in every uncomplicated case there has been complete recovery. I have yet to see a case of anemia in which the administration of this salt has not markedly and, usually, quickly increased the percentage of hemoglobin, and, as a rule, the red cells.

The most brilliant results have been in neuroses accompanying anemia.

Case 2.—In December, 1910, I treated a young married woman, aged 23, whose blood showed hemoglobin 60 per cent. and red cells 3,600,000, and who came to me for persistent headache which she had suffered from for eleven years, and from which she was rarely free, attacks lasting five and six days with but short intermissions. She was given in all twenty-six injections, commencing with 0.2 gm. which was continued for two weeks, and then 0.3 gm. She received in all 6.4 gm., and was discharged as cured at the end of forty-two days; and since her discharge on March 25 last, she has had no return of the headache.

Case 3.—On Feb. 7, 1910, I commenced treatment of a woman past 30, married, and with one child, who gave a history of headaches so severe that at least one-half of her life was spent in bed and which were only partly relieved by the persistent use of headache powders containing acetanilid. She reported having been treated by many men of note in various cities, but without avail. Unfortunately, no blood-examinations were made, but she gave in the color of her skin and mucous membranes every evidence of anemia. Her treatment was carried out in the same manner as the preceding case, and in all she received 12.5 gm. Since her discharge (May 2, 1910), she has had but three headaches of short duration.

Case 4.—A patient with chronic bronchitis and spasmodic asthma of sixteen years' duration, treated for a mild grade of anemia, was discharged with entire alleviation of the symptoms nineteen months ago, the patient having gained 42 pounds, which he still retains, there having been no recurrence.

My records show twenty-two cases of neuritis with sixteen recoveries under treatment. One patient with tic douloureux of six months' duration recovered; another improved and then was not benefited. Of seventeen cases of eczema, most of them of a squamous type, fifteen were cured.

Twenty-two patients with psoriasis were treated with but nine recoveries, and several cases were apparently aggravated. Neuralgias and gastralgias responded favorably in almost every instance, and many cases of dysmenorrhea in the evidently neurotic were cured, although in several instances there were recurrences requiring further treatment. Certain types of malaria, such as are seen in former residents of tropical and semi-tropical regions, which had resisted the persistent use of the quinin salts, gave the most remarkably quick and permanent response.

It has proved much more satisfactory in the treatment of chronic rheumatism than other forms of arsenic, and one case of rheumatoid arthritis has apparently been checked by its use. A case of puerperal eclampsia has been reported in which there was a marked and rapid recovery following its use, but I am not prepared to say that its employment was the cause. As was noted in our previous paper, it was successfully employed in splenic anemia and chorea, and in one case of lichen ruber.

It is most important in the administration of the drug to secure a perfectly pure salt free from arsenous oxid (AS_2O_2) contamination.

My present method is to have the pharmacist weigh out for me a number of doses—0.1 gm., 0.15 gm., 0.2 gm. and 0.3 gm.—and place them in sterile ½ dram phials, tightly corked; this protects this most hygroscopic drug from the effects of the atmosphere. At the time of injection the dry salt is emptied into the barrel of the sterile syringe, into which boiling water is drawn until all the salt is dissolved. As soon as the solution is cooled to about body heat, the needle is plunged quickly deep into the muscle of the buttock, which has been previously scrubbed, and the solution slowly injected. No stock solution should be prepared, as it quickly deteriorates; not only do fungi develop, but decomposition takes place and the amount of sodium cacodylate in each dose is uncertain.

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[4] The notes and the history in this case were reported by Dr. H. W. Carey of Troy, N. Y., who made the blood-examinations.

I have established for my own convenience an arbitrary and somewhat hybrid standard of 1 mg. for each pound of body weight to start with, gradually increasing the dose to 0.2 gm., and frequently to 0.3 gm., and I am sure that the failures to get results with sodium cacodylate are more often due to insufficient dosage than to any other cause.

It would appear that sodium cacodylate is of use in the same class of cases as arsenic, and because of its nontoxicity, is far more desirable in many cases in which large dosage is indicated.

I have purposely left any reference to the use of sodium cacodylate as a substitute for "salvarsan" (606) until the last, as our knowledge is so limited and the reports contradictory. It has seemed to many clinicians that if salvarsan in large doses was of value in lues, then theoretically sodium cacodylate, being less toxic and having a slightly larger percentage of arsenic, should be of value. That this reasoning is fallacious is very tersely stated by Nichols,[5] who says:

> For all practical purposes salvarsan should be regarded as a new substance and not merely as a new arsenical compound. The arsenic is only a part of a complicated instrument and would be of little value alone. The arsenic must be reduced, trivalent and in firm combination with the benzol ring; and the benzol ring must be substituted with the OH group and the NH_2 group in the ortho-position before a maximum destruction of spirochetes is possible. From this point of view, sodium cacodylate has no more relation to salvarsan than a pair of artery forceps has to a lithotrite in the extraction of a stone from the bladder.

Since December, 1910, I have received reports on the use of sodium cacodylate in various forms of syphilis from many observers, and there have been many cases reported in the medical journals; and while in some cases there have seemed to be satisfactory results, the greater number of observers report it to be of no value, and I am inclined to think they are correct.

If it is used, however, I think that massive doses, 0.6 gm., should be employed in order that the spirochetes should be overwhelmed, if possible, as is the case with salvarsan.

255 State Street.

A CASE OF SPOROTRICHOSIS

W. B. STEWARD, M.D.
DENISON, KAN.

The excessive frequency of sporotrichosis in the middle western states has recently been brought to the attention of the profession by Dr. Sutton.[1] The following typical clinical example has been under my care.

History.—Mrs. W., aged 42, a native of Ohio, resident of Jefferson County, Kan. The cutaneous history of the family is negative. Her general health has always been exceptionally good. There is no history of serious illness; she is the mother of two children, a girl aged 16 and a boy aged 9, both having perfect health. One month previous to her visit to me a roundish, slightly nodulated papule was noticed at middle of lower third of internal surface of right thigh. There were no subjective symptoms, excepting a pricking, uneasy sensation. This nodule gradually enlarged to the size of a hazelnut, other nodules appearing one at a time until there was a chain of seven in number, only two breaking down.

Examination.—There was no grandular enlargement, systemic disturbance, impaired function or any other lesion found. The ulcer was 4 cm. long and 3 cm. wide and 3 or 4 mm. deep, the surface of the ulcer was irregular and of a reddish brown color, covered with a thick grayish tenacious pus. Four cm. above the primary lesion was another nodule which broke down causing a similar ulcer, although smaller in size. The areola of hyperemia which usually surrounds an inflamed wound was quite narrow, the edges of the ulcer were thickened and undermined and of a reddish blue color. The line of junction of diseased and normal skin was quite clearly marked. The remaining nodules were uniform in size and evenly distributed up the thigh, very superficial and with no fluctuation. None of these lesions was painful or tender to the touch and no connecting link or extending red streaks were visible.

Treatment.—The ulcers were dressed with antiseptic dressings. The patient was put on increasing doses of potassium iodid. The nodules disappeared and the ulcers healed very readily, leaving practically no scars.

Therapeutics

DELIRIUM TREMENS

The use of alcohol is so very general that it behooves the practitioner to be mindful of its possible effect on every patient whom he is called on to treat. In individuals who have habitually used considerable quantities of alcoholic stimulants, even although they may rarely, perhaps never have drunk to intoxication, the unfavorable effects of the chronic indulgence in alcohol are frequently seen when acute or chronic illness supervenes. Especially in the severe acute infections, like pneumonia, the symptoms are frequently modified or added to by the effects of the habitual use of alcohol.

In commencing the treatment in a case of this kind, the physician should inquire carefully, and consider the possible influence of the habitual use of alcohol on the symptoms and course of the disease.

Besides the occurrence of symptoms of alcoholism as a complication of other diseases, the excessive use of alcoholic drinks not infrequently results in a sickness dependent entirely on this abuse of the alcoholic stimulants. These conditions are so common that they are well recognized by every practitioner. The sleeplessness, the restlessness, and the tremor, passing on to delirium, more or less active, accompanied by hallucinations, form a picture so common that it does not need to be elaborated. The condition may vary in severity from a moderate degree of restlessness and insomnia lasting for a few days and followed by recovery, to pronounced insomnia with delirium and hallucinations, which lead to active and violent voluntary movements which often must be forcibly controlled in order to prevent the patient from doing injury to himself or to persons and things around him.

The treatment for this condition has been the subject of much discussion and of much difference of opinion. Several important questions have arisen as to the proper course to pursue. Should a patient with delirium tremens be allowed to take a moderate amount of alcohol, or should it be entirely denied him? Those who look on delirium tremens as a toxemia argue that it is poor judgment to add to the toxemia by giving an additional amount of alcohol. But, on the other hand, it has been found practically that many patients do better, especially when the symptoms are not severe and when the delirium and hallucinations are not prominent, if allowed to take a moderate amount of alcohol. For example, one ounce may be allowed such a patient every four hours. When the symptoms become more severe, however, the propriety of giving alcohol is not so clearly established, although even here many believe that, owing to the impending failure of the circulation, a moderate amount of alcohol should be given for its effect on the circulation.

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[5] Nichols, H. J.: The Journal A. M. A., Feb. 18, 1911, p. 494.

[1] Sutton: The Journal A. M. A., Sept. 17 and Dec. 24, 1910.

A common characteristic of these cases is the loss of appetite, accompanied often by nausea and vomiting, so that it is difficult for the patient to retain either nourishment or medicine. If the stomach is irritable, it is necessary to give such gastric sedatives as bismuth or bicarbonate of sodium, with such aromatics as capsicum or peppermint. The stomach being in a condition to retain food, abundance of light nourishment should be administered at regular intervals. Milk may be given hot or cold according to the preference of the patient; but if he has no preference, preferably hot. Other light foods should be given, as broths, gruels, or soups. If he is able to take solid food, easily digestible articles may be added, such as custard, eggs, lamb-chops, or beefsteak.

Concerning the use of sedatives and hypnotics in this condition there is scarcely less difference of opinion among practitioners than in regard to the use of alcoholic stimulants. Insomnia and restlessness being such prominent symptoms at the beginning of the trouble, it naturally suggests itself to the physician that something to quiet the nervous system and produce sleep is likely to prove useful. Although many men of experience are opposed to the administration of drugs of this class, still there are strong reasons for believing that, especially outside of hospitals where trained attendants as a rule cannot be called on, the use of at least the milder hypnotics is decidedly advantageous.

At the first appearance of restlessness and insomnia the patient should be given the bromid of sodium in 1-gm. (15-grain) doses, repeated every two, three, or four hours. In the evening when it is natural to desire that the patient should sleep, a more active hypnotic should be used. Chloral in a dose of 1 gm. (15 grains), and repeated in one hour, if needed, will generally prove effective in securing prolonged sleep, after which the patient's condition will frequently be found very much improved.

Although chloral is undoubtedly the peer of all hypnotic drugs, it is rated as a cardiac and circulatory depressant, and, as is well known, can cause heart failure and death. All hypnotics except morphin, however, in sufficient doses to produce sleep, are cardiac depressants, and it is quite probable that a dose of chloral which is sufficient to produce sleep in a patient with delirium tremens is no more depressant than the dose of other hypnotics sufficient to produce sleep in a patient in the same condition. If the circulation is notably weak, however, other hypnotics may be selected. Paraldehyd has had a long period of approval. Its action is rapid, and many times satisfactory. If the dose is sufficient, there may be considerable circulatory depression for a short time. The various synthetic hypnotics, old and new, sulphonmethane (sulphonal), sulphonethylmethane (trional), diethyl barbituric acid (veronal), and sodium diethylbarbiturate (veronal-sodium), all act more or less satisfactorily, but act much more slowly than than do chloral or paraldehyd, and in doses that are sufficient will produce considerable later depression. A sufficient dose of scopolamin hydrobromid, hypodermatically, to cause sleep in this excited condition is also likely to cause depression. Also, there often is an increased susceptibility to any atropin or atropin-containing drug, so that the cerebral excitation may be increased by scopolamin.

In cases of acute illness in which, on account of the history of alcoholic addiction, there is reason to believe that symptoms referable to the habitual use of alcohol are liable to supervene, the use of sedatives should be commenced early before any of the characteristic symptoms of alcoholism appear, and should be continued until it is evident that there is no danger of prolonged insomnia and restlessness.

In severe cases in which active delirium with hallucinations has supervened, energetic treatment is urgently demanded. Danger must be looked for in two or three principal directions. The circulation is threatened, owing to the weak action of the heart, which may result in edema of the lungs. At the same time the circulation in the brain is especially affected so that there is a passive congestion, with more or less edema. Added to this are the symptoms of exhaustion due to the insomnia and violent muscular agitation. Here there is urgent necessity of maintaining the nutrition of the patient by giving liquid nourishment at regular intervals. It is necessary also to watch the circulation carefully and to maintain the action of the heart. The use of alcoholic stimulants for this purpose, while still recommended by many, is of doubtful propriety at this stage of the disease.

If there is serious cerebral excitement and hypnotics in ordinary doses do not act, the best treatment is ergot, in some reliable aseptic form, injected intramuscularly into the deltoid muscle, a syringeful at a dose. One hour after this injection, a hypodermic injection of morphin may be given, not more than ¼ of a grain.

Theoretically morphin is not good treatment when there is cerebral excitement, as the dose required to quiet such excitement is very large, while smaller doses tend to increase the excitement. Under the condition described, however, ergot given first to relieve congestion of the brain and spinal cord and followed by morphin, prevents the initial excitement of the morphin and projects the length of time which a given dose of morphin will act, and the outcome is satisfactory.

If there are signs of cerebral edema, no treatment is better than, or so satisfactory as, the subcutaneous ergot treatment. The ergot may be repeated in three hours, and then once in six hours for several doses, if it is required. The administration of ergot by the mouth for the action desired on the brain is absolutely unsatisfactory and cannot be relied on. Also, if the heart is weak, ergot is the drug indicated.

In other words, if there is apparent edema of the brain, ergot; if there is cerebral excitement and the heart is efficient, chloral; if there is cerebral excitement and chloral is unsatisfactory alone, add ergot; if there is cerebral excitement and the heart is weak, ergot and morphin.

Strychnin is inadvisable as a stimulant in this condition. Aromatic ammonia may be given if a quickly acting stimulant is required. A saturated solution of camphor in an aseptic oil may be given hypodermatically, if required, as a quickly acting stimulant. Strophanthin hypodermatically may be given, if deemed advisable. Digitalis, which does not act well for at least twenty hours, is generally not indicated.

In the meantime, while these various dietetic and medicinal measures are being employed, the patient should be kept quiet, should be constantly watched, and should be frequently bathed with warm water, or, if strong enough, given hot baths

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TICK CONTROL IN RELATION TO ROCKY MOUNTAIN SPOTTED FEVER

Dr. H. T. Ricketts, in his classical work on Rocky Mountain spotted fever, demonstrated that wood-ticks collected from nature could infect guinea-pigs with the disease and recommended as a prophylactic measure the eradication of the tick. Active steps to destroy or decrease the number of ticks were, however, never taken by him, although dipping and spraying of domestic cattle and periodic changing of pasturage were suggested.

Recently, Cooley[1] of the Montana Experiment Station, in cooperation with the Bureau of Entomology, *has made a study of the control of the tick in relation* to the disease. His method is to collect as great a number of ticks as possible from all the wild and domestic animals in the Bitter-Root Valley and to follow this by a study of their species and life history. Six different species of ticks were found in the valley. It has not been proved that all of these transmit the disease, but in the light of the findings of Maver,[2] in which different species of ticks from Texas, Missouri and Massachusetts were shown to be able to carry the disease, it is not at all improbable that all the ticks in the valley may do so.

Cooley found adult ticks on all large animals, but principally on horses and cattle. The immature stages, on the contrary, were obtained only from small wild animals. A conclusion which rests more on an hypothetical than on an experimental basis is that the life-cycle of the tick in nature is two years instead of one, as hitherto believed. This, if true, has an important relation to the freeing of the valley from ticks. Since the adult ticks feed chiefly on domestic animals, if their life-cycle extends over two years, the domestic animals must be kept free from ticks for two consecutive years before any material reduction in the number will be accomplished. Cooley believes that the key to the situation is in keeping domestic animals free from ticks, and he is endeavoring, at the present time, to prove this by dipping cattle in large numbers. Another method is the prevention of the maturation of the larval and nymphal stage by wholesale destruction of the small wild animals. The belief that tick control alone is a sufficient method of securing relief from the disease would seem better founded if the ticks were confined to small districts, but, when the areas involved are as large as the western portion of Montana, Idaho, and districts in other western states, where Rocky Mountain spotted fever occurs, the magnitude of the undertaking becomes apparent at once.

THE DANGER OF GENERALIZED MEDICAL TERMS

Long ago Roger Bacon declared that the principal reason why men did not advance in knowledge was that they were afraid to say "I do not know." Most persons prefer a dubious explanation to none. Words often conceal the speaker's ignorance even from himself. This tendency has now and again been observed in medicine.

Thus, Sir William Gowers[1] called particular attention to the ease with which a word may come to conceal our ignorance or laziness, or lack of time to study a case. Speaking of the word "neurasthenia," he said: "Its practical utility is low, but has influenced its use. Its employment is extended far beyond the needs of the patient and, indeed, did so from the first. It often tends to be too satisfying. If physicians actually think that they have found the malady from which the patient is *suffering, an influence is often exerted on them of which* they are unconscious, which lessens the tendency to go further in search for the whole morbid state. Words are our servants, but they often exert a very masterly influence on us, none the less effective because we are not conscious of it. They have also their own vitality, feeble or vigorous, and we have little power to influence their career."

Several years ago, to use another illustration, malaria was considered to be a very prevalent affection even in the northern portion of the United States. Patients who suffered from lassitude were sure that they had malaria; "that tired feeling" was almost a pathognomonic sign. As a consequence many of the neurotic affections that have since come to be grouped under other heads were classed as malaria. Various fevers masqueraded under this term. Irregular mild forms of typhoid fever were probably often diagnosed as malaria. Unfortunately, even some more serious affections came under the same head, so that there was apparently a large death-rate from the disease. Nephritis in its later stages was sometimes classified as chronic malaria, and occasionally even cirrhosis of the liver was so classified. Gall-stone disease, particularly when not productive of typical gall-stone colic, but only of some vague discomfort with yellowing of the skin, and especially if accompanied by irregular septic fever, was almost sure to be called malaria. Chronic appendicitis not infrequently masqueraded as malaria. Latent abscess came under the same rubric. When temperature ran up after childbirth, malaria was often blamed for it. Low-grade pneumonia occasionally wore the semblance of malaria, and tuberculosis in its early stages was nearly always malaria to some physicians.

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[1] Cooley: Bull. 85, Montana Agric. Col. Exp. Station.

[2] Maver: Jour. Infec. Dis., 1911, viii, 322.

[1] Gowers: Lectures on Diseases of the Nervous System, Second Series, Blakiston, Philadelphia, 1904.

We have now advanced beyond the stage at which malaria served as a catch-all in pathology and etiology. We know that malaria is extremely rare in the northern part of the country, that most of our large cities have absolutely none of it, and that a diagnosis of malaria without demonstration of the characteristic plasmodium in the blood can be due only to ignorance or carelessness. It does not follow necessarily, however, that we have advanced beyond the careless superficiality which so often substituted a word for an idea in the case of "malaria."

The present use of the word "influenza" seems to offer an instructive parallel to that of "malaria" a generation ago. A great many deaths from otherwise undefined causes of all kinds are now ascribed to influenza. Most of the respiratory affections, of the winter and early spring particularly, are called influenza or grip.

During the last two years in New York state, for instance, the number of deaths from "influenza" has been over 10,000. The month of March of this year showed the highest mortality the state has ever had. The state department of health declared that "the excessive death-rate has been from the prevalent influenza, which is estimated last year to have caused 10,000 deaths and which has been, thus far, this year more prevalent and fatal in its effects than it was last year." This was said of the mortality statistics up to the first of April.

It is doubtful whether many of these deaths attributed so lightly to influenza were really due to the specific infectious disease which alone deserves that name, and whether many of them were not merely various forms of respiratory disease and even of visceral disease of many other kinds loosely called influenza or grip. This latter term particularly has an attraction for too many physicians. In recent years many forms of intestinal disease and affections involving important abdominal organs have been attributed to influenza, especially if there were catarrhal or respiratory symptoms at any stage of the affection. It seems justifiable, therefore, to ask whether we are not now doing with the word "influenza" what we did with the word "malaria" twenty years ago. Are we using it as a convenient basket, into which we put diseases and disorders of various natures that a little more care in differential diagnosis would separate from each other?

We have reached the end of the influenza period for this year; but it is worth while to consider the question in advance of the next winter season, so that we may be prepared to use less freely and loosely that convenient but dubious and—since it encourages ignorance, somewhat dangerous—term "influenza."

MACAURA COMES BACK

For the information of those who may not have heard of the individual who forms the subject of this caption, we give the following: "Dr." Gerald Macaura is an American "vibro-therapist," who for the past three or four years has been separating gullible Britishers from their money. In 1908, Macaura was conducting an "institute" in Manchester, England. His particular branch of quackery consisted in operating and selling a "blood circulator" that his dupes were assured was "Protected by His Majesty's Royal Letter Patent." In his advertisements, Macaura asserts that he is an "F. R. S. A.," whatever that may be. Also, he is a "graduate of the National Medical University of Chicago." The latter claim is interesting because, although Macaura was making this claim as long ago as 1908, the official list of alumni of the National Medical University of Chicago, published in 1909, does not contain Macaura's name.

From the standpoint of the British dupes, who have parted with real money for Macaura's "vibro-therapeutics," it is of little moment whether this quack is or is not a graduate of the National Medical University. It is true that the word "university," which was made much of in his British advertisements, may have been responsible for a certain proportion of his "patients" throwing away their money. Naturally, the average Britisher had no means of knowing that the National Medical University was not a university in the British sense; neither could he be expected to know that it was a medical school of the night-class type that had been discredited by the authorities of the very state in which it operated.

Macaura's success in Manchester was so great that he decided to transfer his quack institution to larger and more profitable fields. He went to London and, with the money that he had made at Manchester, subsidized a large portion of the London press by methods common to those of his class, namely, by placing large advertising contracts. He went farther; he hired public halls and gave "lectures" in typical "Kickapoo Indian Medicine" style. Moreover, as a master-stroke of advertising he was able to interest that well-known but erratic individual, W. T. Stead, editor of the British *Review of Reviews* and author of the classic, "If Christ Came to Chicago." Mr. Stead's advocacy of anything medical is, generally speaking, *prima facie* evidence of its unscientific and bizarre character. Some years back, the versatile editor of the *Review of Reviews* championed the notorious Count Mattei cancer cure. Analysis proved this fraud to be nothing but water, but the author of "Letters From Julia" was not nonplused on that account. The discussion made good "copy" while it lasted and that is all any enterprising journalist could ask.

But, to return to Macaura. Most quacks find that sooner or later the number of dupes they can fool is limited. As the knowledge of the inefficiency and fraudulency of quackery is gradually forced on the public, it finally overcomes the counter-force of blatant and mendacious advertising. Apparently, Macaura has reached this point, for we learn from an authoritative source that he is "coming back." The spectacle is somewhat unusual. It is more common to find fakers in various branches of human activity coming from Europe to America, fleecing their clientele and going back to their native land to live in ease on their ill-gotten gains. The tide seems to be setting in the other direction. The tainted money that has been wrung from the ignorant sick and the gullible suffering of the British Isles is being brought to the United States—presumably to Chicago. We look forward with no degree of enthusiasm to Macaura's return to Chicago. This quack-ridden city would prefer his room to his company. The most we can do is to felicitate the people of London on being rid of a most undesirable citizen. Their gain is our loss.

Current Comment

SCHOOL CHILDREN AND CATTLE

In the hope of hampering medical inspection of schools, the National League of Medical Freedom recently sent a circular letter to school superintendents, asking them to oppose further inspection of school children. The superintendent of schools in a large eastern city replied enumerating a few reasons why school inspection is desirable.[1] Among other things he said that in his own city, over 400 cases of head-lice among school children were discovered in one year and that it was necessary in some cases actually to force the parents to allow their children to have proper treatment. This is not a pleasant topic for discussion, but it is infinitely better to discuss it freely than to permit unfortunate and helpless children to be tortured by such horrible parasites. It is conceded that any member of the National League of Medical Freedom has a right to entertain such parasites unmolested, if he so desires, so long as he does not come in contact with any of his fellow citizens who are more particular. It will be difficult, however, to convince the American people that it is an infringement on personal liberty or a violation of the constitution of the United States for school superintendents and boards of health to compel ignorant and delinquent parents to keep their children decently clean and to prevent them from spreading disease among others. Such conditions in livestock would not be tolerated by any self-respecting farmer. Striking corroboration of this fact is found in a recent number of the Louisville (Ky.) *Times*, in which appears the statement that a federal quarantine against the cattle in Daviess County, Ky., is probable, in order to eradicate itch among cows in that county. Ten head of beef cattle shipped from Owensburg, Ky., to Buffalo, N. Y., were found by the government inspectors to be infected with itch. The governments inspectors did not wait to examine the federal Constitution. They did not consider that the personal liberties of the cattle were being infringed on. They did not stop to quibble about state rights. They "asked at once what steps Kentucky would take to stamp out the disease." They notified the state authorities that unless prompt measures were taken to prevent the further shipment of infected cattle, Daviess County would be quarantined. In spite of this harrowing exhibition of federal tyranny, so far as we have learned up to the time of going to press, no representative of the National League of Medical Freedom has as yet appeared in Daviess County to champion the cause of these persecuted cattle. No branch of this society has been organized among the Daviess County cows. Their cause has not even been championed in a speech before the United States Senate. No editorials on the right of these cows to have the itch have appeared in any of the patent medicine organs. The right of the federal government to protect the live stock of the country against infection is conceded by all. Yet in one city last year 400 school children were found suffering from lice, and the only means of preventing such horrible conditions, viz., school inspection, is subjected to an organized attack as an unwarranted invasion of personal liberty. Seriously, is it not time we asked ourselves, as citizens, how many of our school children one cow from Daviess County is worth? What is the stage of civilization in a nation which uses the whole force of governmental authority to prevent itch in cattle, but which hesitates to protect its school children lest it be said that individual liberty is thereby trampled on? One can only echo Mme. Roland's dying cry, "Oh, liberty, how many crimes are committed in thy name!"

ALSO "GETTING" THE COURTS

Taking their cue, perhaps, from the methods of the "patent medicine" and impure food interests in attempting to attain their selfish ends, the dairymen supplying milk to Canton, Ohio, recently attempted a high-handed procedure to prevent legal interference with their objectionable methods of producing and distributing milk. The local board of health, in its crusade for better, more healthful and cleaner milk, started legal proceedings against certain milk-dealers whose methods and whose milk did not comply with the requirements of the law. The dairymen, without attempting to justify their course or to defend their product, and, it is alleged, disregarding any considerations of the health of the citizens to whom they served adulterated and therefore dangerous milk, threatened the somewhat desperate procedure of abolishing the police court in which their cases were to be tried on the ground that the law creating it was unconstitutional. "Big business" and "high finance" are accused sometimes of seeing that complaisant officials occupy seats in high places where they will do the most good as far as the schemes of the former are concerned, but the dairymen, not having been so far-seeing, perhaps, sought to adopt a plan which they believed to be equally good and possibly more direct—abolishing the court altogether. While it would be rash, without knowing all the facts, to pronounce decisively on the merits of the controversy, there is a suspicious familiarity in the methods employed. One's admiration is challenged in turn by the ingenuity of the lawyers for the dairymen who are responsible for this *peculiar attempt* to defeat beneficent health measures on a technicality, and by the audacity of the dairymen who would pursue, fatuously, their old, dirty and unhealthful methods of producing and distributing milk without regard to the number of babies they might thus directly kill, or the number of adults whose health they might thus jeopardize, in order to obtain a larger margin of profit. Both the lawyers and the dairymen should wake up and adopt more modern ideas of business and of conduct. The theory which puts the dollar before the man is rapidly becoming exploded, and *especially* in matters that affect the health of the people so directly. The abolishment of one small police court will not for long secure to misguided dairymen license to continue to furnish contaminated milk to the citizens of Canton or *anywhere* else. The idea that dealers may thus continue dangerously to exploit the people needs revision in accordance with an awakened business and civic conscience.

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[1] The Journal A. M. A., July 29, p. 410.

ANOTHER OUTRAGE

Immigration commissioners from nineteen states recently met in Chicago to form a national organization. The commission proposes to publish a "handbook for the guidance of land seekers," which will contain authoritative information concerning farm and mineral lands in the various states. Dissemination of information of this kind will make it less easy for mining promoters, land sharks and other "get-rich-quick" gentlemen in the same line of business, to defraud the public. The book will be distributed free and "will be circulated in every state in the Union in opposition to many 'promotion' companies, which draw wondrous pictures concerning land in a certain locality without telling any of its bad features." Here, then, we have again the same unwarranted interference with private business that has characterized the action of Dr. Wiley's bureau. The only difference is that in the latter case it was the "patent medicine" business interests that were hurt, while here it is going to be the J. Rufus Wallingfords who do land promoting. We may expect to see a new "Advertisers' Protective Association" formed to fight the immigration commissioners' high-handed interference with a lucrative business. Land sharks and "patent medicine" fakers must deplore the present tendencies of governmental agencies to assume paternalistic rôles. Men who make a business of defrauding the public are always believers in the *laissez-faire* doctrine. They hold that swindling and being swindled are inalienable rights of every free-born American. Honest men believe differently.

STATE SUPPORT OF MEDICAL EDUCATION

The wave of reform in medical education moves steadily on, and of much significance is the part which state universities are taking in this reform. Slowly but surely colleges organized and conducted on the stock corporation basis are either obtaining connection with privately endowed universities or are giving way to the state supported university medical school. In the latter instance, the medical school is conducted as an integral part of the state's educational system. The latest instance is in Arkansas, where two independent medical schools, the College of Physicians and Surgeons and the University of Arkansas Medical Department, both of Little Rock, have been united. The school formed by this consolidation is to be controlled and financed by the University of Arkansas. This is but a repetition of what has already taken place in Indiana, Minnesota, Colorado, and other states, where only one medical school remains in each instance, that being the medical department of the state university. In several other states, generous appropriations have been made for state university medical schools. This larger state support of medical education has another significance, however. It means that since the state is endeavoring to provide a good training for medical students it will not tolerate the turning out of poorly trained doctors by low-grade institutions. In fact, the inferior medical colleges even now are reading the *handwriting on the wall. This accounts for the* opposition, direct or indirect, which they are making toward state endowments for medical education in Nebraska, Illinois and elsewhere. This opposition, however, will not be misunderstood and the progress for better standards of medical education has received too much impetus to be stopped by obstructions prompted by selfish interests. It is not only the right, but also the duty, of each state to provide a good training for those who are to have in charge the health of the people of that commonwealth as is the case in nearly all other countries.

Medical News

ILLINOIS

Personal.—Dr. George S. Chalmers, Galesburg, coroner of Knox County, is reported to be ill with pleurisy.——Dr. George F. Ruppert, Elgin, sustained a painful injury to the right eye while working over an automobile, July 18.

Surgical Institute Founded.—The governor has signed the house bill providing for the establishment of a state institute where indigent children under 14 years of age may receive treatment for deformity or injury. It is to be known as the Illinois Surgical Institute and will be located on a site of 160 acres, to be donated, and will be under the management of the State Board of Administration. A second bill appropriating $60,000 for buildings for the new institute and $15,000 for furnishing and equipment was also signed by the governor.

National Guard Surgeons Meet.—At the annual meeting of the Association of Military Surgeons of the State of Illinois, held in connection with the meeting of the National Guard Association, July 29, in Chicago, Brigadier General Charles Adams, surgeon general, was elected president; Major Thomas J. Sullivan, assigned Seventh Infantry, vice-president, and Major Samuel C. Stanton, secretary to surgeon general, secretary and treasurer, all of Chicago. Major Thomas C. McCord, Paris, assigned Fourth Infantry, and Daniel W. Rogers, Chicago, chief sanitary officer, and Captain Arthur F. Wilhelmy, assigned Fifth Infantry, presented reports of their respective tours of duty at the maneuver division on the Mexican frontier.

Chicago

Personal.—Drs. George A. Torrison, Charles M. McKenna, Truman W. Brophy, Rudolph Beck and Dr. and Mrs. Carl Beck, have sailed for Europe.——Dr. Thomas S. Crowe, county physician, resigned July 29.

INDIANA

Hospital Notes.—The cornerstone of the new wing of the Methodist Episcopal Hospital, Indianapolis, was laid July 25, with appropriate ceremonies.——The City Council of Indianapolis has passed an ordinance appropriating $105,000 for the first building of a new city hospital

Board of Health Meets.—At the annual meeting of the Indiana State Board of Health, held in Indianapolis, July 28, the two new members, Drs. John R. Hicks, Covington, and James S. Boyers, Decatur, were sworn into office. Dr. Frederick A. Tucker, Noblesville, was elected president, and Dr. T. Henry Davis, Richmond, vice-president.

Personal.—Dr. Ephraim M. Folson, Evansville, sailed for Europe, July 19.——Dr. Halsted S. Murat has been appointed physician to the Indiana Reformatory. Dr. James H. Walker, Henryville, had been appointed but refused to accept the position.——Dr. Julius E. Hiatt, New Castle, was operated on for appendicitis at the German Hospital, Chicago, July 21.——Dr. Joshua Simon, Rome City, has been appointed deputy health commissioner of Noble County.——Dr. Charles P. Cook, New Albany, is confined to his home from the effects of a punctured wound of the foot.——Dr. James A. Mattison, National Military Home, first assistant surgeon at the National Military Home, Marion, has been elected chief surgeon at the Battle Mountain Sanitarium, Hot Springs, S. Dak., vice Dr. Warren R. King, retiring after forty years in practice. Dr. William H. Braunlin, a member of the present staff, will succeed Dr. Mattison as first assistant.

MARYLAND

Baltimore

Russian Physicians Visit Baltimore.—Dr. Boris Finkelstein, Bacou, and Dr. G. Ter-Neressoff, Tiflis, are visiting the hospitals of Baltimore.

Fund Raised for Pathology.—Through the efforts of Dr. John Randolph Winslow, Baltimore, $7,500 has been added to the fund for the support of the department of pathology of the University of Maryland.

Personal.—Dr. Gideon Timberlake has been appointed clinical professor of genito-urinary diseases at the University of Maryland.——Dr. W. De Forest Olmstead is ill at the Maryland General Hospital with typhoid fever.——Dr. Arthur E. Cannon has settled in Spartanburg, S. C.——Dr. Abraham Samuels sailed for Europe, July 29.

MASSACHUSETTS

Personal.—Drs. Annie G. and John H. Doyle, Fall River, have returned after a year of study in Vienna.——Dr. Louis Edward Mannix, Chicopee Falls, has been appointed assistant medical examiner of the Chicopee district.

Bequests.—By the will of the late Alice S. Truscott, Dorchester, $5,000 is devised to the New England Deaconess Hospital.——The late Nathaniel Taylor in his will bequeathes $50,000 to the Massachusetts General Hospital; $10,000 to the Boston Lying-In Hospital, and $5,000 to Clinton Hospital.

MICHIGAN

Health Train Starts.—The Michigan Health Board of Exhibit started on its first trip over the state August 1, promulgating facts regarding typhoid fever, tuberculosis, infant mortality and general sanitation to the people of the state.

Personal.—Dr. Ralph E. Balch, Kalamazoo, who has been critically ill in Bronson Hospital with septicemia, is reported to be improving.——Dr. Elizabeth M. Hooper, Port Huron, has been reappointed chairman of the supreme medical board of the Ladies of the Maccabees of the World.

County Society Meets.—At the annual meeting of the Branch County Medical Society, which was held in Coldwater, July 19, the following officers were elected: President, Dr. William H. Baldwin, Coldwater; vice-president, Dr. Bert Wilson Culver, Coldwater; secretary-treasurer, Dr. Samuel Schultz, Coldwater; delegate to the state medical society, Dr. Henry W. Whitmore, Quincy, and alternate, Dr. Ernest E. Hancock, Girard.

Recent Measures and Plans Instituted by the State Board of Health.—The secretary of the State Board of Health announces the following measures and plans recently instituted by the board. A health train equipped with a large collection of charts, models, demonstrations, etc., relating to preventive medicine, will make a trip throughout the southern section of the state early in August; a pamphlet has been printed to be used by the teachers in public schools as an instruction manual on the physical examination of children, with especial reference to defective conditions of the eye, ear, nose, mouth and throat; the resolution forbidding the use of the common drinking cup in railroad cars, depots, schools, etc., is being enforced; an expert in the study of eugenics has been employed to make a careful study along this line; a permanent educational committee has been appointed to plan, arrange and hold sanitary institutes, engage lecturers, etc., in the interest of preventive medicine. Ten state sanitary conventions will be held throughout the state during the winter; the secretary has commenced the publication of a weekly bulletin; plans have been made for a series of health officers' conventions; and provision has been made for a medical inspector to work especially in the investigation of water, milk and other food supplies.

MINNESOTA

Minneapolis Physicians Endorse Wiley.—At the meeting of the Hennepin County Medical Society, July 19, a resolution was unanimously adopted setting forth that Dr. Harvey W. Wiley has accomplished work of inestimable value to the country in restraining the output of adulterated and impure food, and that he is exceptionally fitted to carry on the work, protesting against the summary removal of Dr. Wiley; expressing its complete confidence in Dr. Wiley as to fitness and ability and directing that a copy of the resolution be placed in the hands of the proper authorities in Washington, and in the hands of the congressmen and senators of Minnesota.

MISSOURI

Clinics at Kansas City.—The medical staffs of various hospitals of Kansas City have invited the medical profession of the Southwest to attend morning clinics in medicine, surgery and special branches, which will be held at the various hospitals of the city, and to be present at the afternoon meetings to be conducted by members of the staffs of the hospitals during the festival of the Priests of Pallas, October 3-10. These opportunities are to be offered without expense to physicians. The headquarters of the clinic will be at the Kansas City Medical Library, on the thirteenth floor of the Rialto Building, Ninth Street and Grand Avenue, and further information may be obtained at the above address from the clinic secretary.

St. Louis

Barnes University to Continue.—It is reported that the foreclosure sale of the Barnes University property has been canceled, the first mortgage of $45,000 has been paid, and that the college will open as usual this fall. A consolidation with one or two of the other medical colleges of St. Louis is still under consideration.

NEW JERSEY

North American Sanitarium Opens.—The North American Children's Sanitarium for the Treatment of Surgical Tuberculosis, in Ventnor, will be ready for reception of patients shortly and will be open the entire year. The institution will be under the direction of an executive committee composed of three Philadelphia physicians, Drs. H. Augustus Wilson, John Carnett and William L. Rodman. Dr. John C. Tull of Atlantic City will be the resident surgeon and the consulting staff is composed of physicians of Camden, Philadelphia and Atlantic City.

New Hospital.—A meeting regarding the organization of a new hospital was held at the office of Dr. Edwards, Leonia, July 21, at which twenty-five physicians were present. The committee on management outlined a plan which was approved and the committee on incorporation replied that incorporation would soon take place. The corporation will be known as the Bergen County General Hospital and the corporators will be Drs. Max Wyler, Fort Lee; Samuel T. Hubbard, Edgewater; John Edward Pratt, Dumont; Frederick S. Hallet, Hackensack; Michael J. Sullivan, Englewood; J. R. Edwards, Ellsworth E. Conover, Hasbrouch, and Frank Freeland, Maywood. The following trustees were elected for the first year: Dr. J. Finley Beel, Englewood, president; Dr. George P. Pitkin, Schroon Lake, N. Y., Bergenfield, secretary, and Drs. Ellsworth E. Conover, Hasbrouch, Philip Edwin Brundage, Grantwood; Max Wyler, Fort Lee; Joseph S. Van Dyke, Palisades Park; James Malcolm McKellar, Tenafly; Charles Albert Richardson, Closter; Frederick S. Hallet, Hackensack; Edwards, Leonia; J. R. Edwards; John Edward Pratt, Dumont; Frank Freeland, Maywood; Jar [illegible] off, Leonia; Samuel T. Hubbard, Edgewa [illegible] rewster, Grantwood; Henry Charles Elsing [illegible] and Edward Newell Huff, Englewood. T [illegible] cation was continued and the committee on management was enlarged and instructed to prepare a constitution and by-laws.

NEW YORK

Vetoes Drinking-Cup Bill.—Governor Dix has vetoed Mr. Carew's measure providing for the doing away with public drinking cups.

Monthly Bulletin to be Sent Physicians on Application.—The department of health's *Monthly Bulletin* hitherto has been distributed to a limited mailing list of officials, institutions, publications and persons interested in sanitary problems. The demand for copies has been so great, however, that the department has been obliged to increase the monthly issue. Physicians resident in the city of New York, who desire to receive free copies of the bulletin regularly, should apply in writing to the Editor, Monthly Bulletin of the Department of Health, Fifty-Fifth Street and Sixth Avenue. The names of such physicians will be placed on the mailing list in the order of application.

New York City

Leave for Europe.—Drs. William V. Dee, Brooklyn, and Maude J. Frye, Buffalo, have sailed for Europe.

Benefit for Infant Asylum.—A benefit performance given at Averne, L. I., netted $10,000 for the Hebrew Infant Asylum.

Bequests.—Under the will of the late Alfred Krower, Mount Sinai Hospital receives $2,000, the Montefiore Home, $2,000, and Beth Israel Hospital, $1,000.——The Flushing Hospital, L. I., will receive $2,000 from the estate of Benjamin Wooley of Little Neck.

Exhibit of National Child Labor Committee.—This organization has opened an exhibit in New York City which demonstrates by means of photographs, statistics and graphic illustrations the conditions and effects of child labor in factories. The object of the exhibit is to affect public sentiment so as to influence the legislature to pass laws prohibiting child labor.

Ban on Nostrum Advertising.—In the surface cars of this city appears the following notice: "Fraudulent misrepresentation of the curative value of nostrums not only operate to defraud passengers, but are a distinct menace to the public health. (President Taft in a recent message). No patent medicines are advertised in the surface cars of New York City."

Asks Money for Milk Stations.—Commissioner Lederle has sent an urgent request to the Board of Estimate for a special issue of revenue bonds amounting to $10,125 to care for the increased number of mothers and babies coming to the milk stations. As many as 9,127 babies have come to the milk stations in one day. It is stated that as many as 40 per cent. of those coming to the stations are ill and Dr. Lederle says that he needs ten medical inspectors in addition to the five of the present staff and also ten additional nurses, as one nurse can care for only about seventy-five babies, whereas some are now attempting to care for from 200 to 300.

NORTH CAROLINA

Portrait Bought.—A portrait of Dr. L. F. Dixon, Shelbyville, has been bought by his friends and will be placed in the State Library, Raleigh.

Install Laboratory.—The Charlotte Sanatorium has completed and installed a chemical and pathologic laboratory which will be under the care of Dr. Addison G. Brenizer, Jr., who has recently returned from Europe.

Buncombe Physicians Endorse Wiley.—The Buncombe County Medical Society at its regular meeting, July 17, adopted resolutions endorsing Dr. Harvey W. Wiley and urging the President to retain his valuable services.

Dinner to Railway Surgeons.—Dr. Robert L. Payne, formerly of Lexington, chief surgeon of the Norfolk and Southern Railway, entertained the surgeons of the road at a shore dinner, Morehead City, July 17. Covers were laid for fifty-four.

Health Officer Threatened.—Dr. Charles T. Nesbitt, health officer of Wilmington, who has been making strenuous efforts in the direction of municipal sanitation, has received an anonymous letter containing indefinite threats unless he resigns or changes his attitude.

Personal.—Dr. Alice E. Johnson, Asheville, has accepted the superintendency of the American Hospital, Lauta, Egypt, and has placed her practice in charge of Dr. Florence Stone, Chicago.——Dr. James J. L. McCullers, McCullers, has been elected superintendent of health of Wake County.——Dr. Richard Henry Lewis, Raleigh, has been elected president of the North Carolina State Audubon Society.

OHIO

Resolutions of Respect.—At a special meeting of the Logan County Medical Association, held in Bellefontaine, resolutions were unanimously adopted expressing the sorrow of the members at the death of Dr. Benjamin B. Leonard, West Liberty, and expressing heartfelt sympathy with his family.

Ill and Injured.—Dr. Russell C. Edwards, West Carlisle, was seriously injured in a runaway accident, July 19.——Dr. Earle B. Downer is reported to be ill at his home in Columbus, as a result of heat prostration.——Dr. Frank P. Letherman, Outville, is a patient at Grant Hospital, Columbus, suffering from a fracture of the arm sustained while cranking his automobile. ——Dr. Alva G. Ray, Byer, was painfully injured in a runaway accident, July 12.——Dr. James J. McClellan, Columbus, who was operated on for septicemia recently, is reported to be improving.

Personal.—Dr. S. A. Douglass, Mansfield, has been appointed acting superintendent of the Ohio State Sanatorium for Tuberculosis, Mount Vernon.——Dr. George M. Cummins has been appointed a member of the Civil Service Commission of Hamilton.——Dr. John W. Birk, a member of the Bucyrus Board of Health, has resigned.——Dr. Floyd Miller, Delaware, has been commissioned first lieutenant in the Ohio National Guard and assigned to duty with the Fourth Infantry.——Dr. J. B. Kotheimer, Youngstown, has been appointed medical examiner for the Ohio State Sanatorium for Tuberculosis.

Cincinnati

Endowment Fund for the Medical Department.—By the will of the late Dr. Francis Brunning, there is devised to the Medical Department of the University of Cincinnati a sum estimated at $50,000 to be known as the Francis Brunning Medical Endowment Fund.

Personal.—Dr. Edward W. Walker has resigned from the staff of the City Hospital.——Dr. Samuel B. Grimes has started for Europe.——Dr. Martin H. Fischer, Eichberg, professor of physiology at the University of Cincinnati, has been awarded the Cartwright prize of $500 offered by the Alumni Association of the College of Physicians and Surgeons, New York City, for his research work on nephritis.——Dr. and Mrs. William L. Milner were severely injured in an automobile accident at Cleves, July 23.

PENNSYLVANIA

Police Surgeons Organize.—The Association of Police Surgeons of the Department of Public Safety of Pittsburg was organized July 21. Dr. Frank Kenworthy was elected president and Dr. Donald G. Lerch, secretary.

Health Bulletins.—Among the recent titles of the bulletins of the State Department of Health are "Some Duties, Ideas and Opportunities for the Country Doctor Developed;" "Malaria, How It Is Brought on and How to Get Rid of It;" "Health;" "The Common Fly, How It is Developed, Why It Must be Destroyed and How to Destroy It."

Physician Endows Library.—By the will of the late Dr. J. Smith, Hanover, he devised his entire estate, valued at about $50,000, toward the endowment of a library for Hanover. A citizen of the town has given a building, which is just completed and the local physicians have undertaken to develop a medical reference section, as a memorial to Dr. Smith.

Lehigh Valley Physicians Meet.—At the annual meeting of the Lehigh Valley Medical Society, held at the Delaware Water Gap, July 21, seventy-five members were present and the principal papers were read by Drs. Joseph C. Bloodgood, Baltimore, and Dr. Henry H. Herbst, Allentown. The following officers were elected: President, Dr. Charles B. Smith, Washington, N. J.; vice-presidents, Dr. Edwin H. Kistler, Lansford, Dr. Franklin P. Lytle, Birdsboro, and Dr. James L. Hornbeck, Catasauqua; secretary, Dr. John W. Luther, Palmerton; assistant secretary, Dr. J. H. Santee, Palmerton, and treasurer, Dr. Albert A. Seem, Bangor.

Philadelphia

Rigid Examinations of Incoming Steamers.—All steamers entering this port are rigidly examined to prevent cholera. The steamer *Cassel* from Bremen, which arrived July 26, had no cases of cholera, but three cases of measles were found and the patients were detained at quarantine. The steamship *Prinz Adelbert*, which docked on July 28, handed in a clean bill of health, but all edibles carried by steerage passengers were confiscated.

Personal.—Dr. Judson Daland is spending the summer in Germany.——Dr. Frederick W. Steinbock is taking a postgraduate course in Berlin.——Dr. John A. Kolmer has been elected professor of pathology, and director of laboratories in the Philadelphia Polyclinic and College for Graduates in Medicine.——Dr. Josiah H. Penniman (vice provost of the University of Pennsylvania) has sufficiently recovered from his recent operation to leave the University Hospital and has gone to Boston to spend the summer.——Dr. Harvey Shoemaker sailed for Europe, July 26

University Medical School Moves.—After occupying Logan Hall at Thirty-Sixth and Woodland Avenue for thirty-seven years, the medical school of the University of Pennsylvania is moving to the medical laboratory in the botanic gardens. Logan Hall, one of the first of the university buildings to be erected in West Philadelphia, was built in 1874. After the completion of the new medical laboratory in 1904, the medical school began gradually to move from Logan Hall. Up to this summer the fourth floor of that building was still used for histology, anatomy and embryology, the other floors being occupied by the Wharton School of Political Economy.

Milk Firm Fined.—Joseph Gravenstine and Joseph Miller, trading as Gravenstine and Co., are said to have been fined $25 and costs, July 25, for selling cream containing a percentage of butter fat under the standard set by the Piper Milk and Cream Act, passed by the last session of the state legislature. This firm is said to have been also fined $60 and costs for selling butter containing a larger percentage of moisture than provided for by law. The cream had been represented as containing 22 per cent. butter fat, when it had but 12 per cent. and the law requires 18. Charles H. LeWall (chemist for the dairy and food department) found the butter to contain 37 per cent. moisture, while the pure food law places 16 per cent. as the limit.

Dumping of Milk Denounced.—At a special session of the Interstate Milk Producers' Association held in the Parkway Building, July 26, the action of the city health authorities in destroying quantities of milk over the temperature requirement of 60 degrees, was denounced and the following resolution was passed:

> That a permanent committee be appointed to take up the matter of dumping milk with a competent attorney and find out our legal standing, and, if advice warrants it, to obtain an injunction to restrain the Board of Health from destroying this milk, and we recommend that a collection be taken to start this matter, and that the secretary be instructed to notify the presidents of all the branch associations to take up collections from all persons interested to help defray these expenses.

On July 28, 340 quarts of milk were dumped by the inspectors, of which 200 quarts had been brought to the city by the Reading Road and 140 by the Pennsylvania. This makes a total of 13,289 quarts condemned. The Philadelphia and Reading Railroad Company has been served with formal notice of complaint by the State Railroad Commission in regard to the failure of the companies to refrigerate cars in which milk is shipped. The complaint was entered by the milk dealers of this city, who have been losing thousands of quarts of milk on this account.

VIRGINIA

Limit Stay at Sanatorium.—In consideration of the limited means at the command of the State Board of Health for the prosecution of the fight against tuberculosis it has been decided to limit the term of treatment at the State Sanatorium, Catawba, to six months. The resident physicians are to be allowed to make exceptions to this rule in cases where it is deemed advisable.

Offers to Transfer Hospital to City.—Mr. John L. Williams, Richmond, president of the Charlotte Williams Memorial Hospital Corporation, has offered to transfer that institution to the city of Richmond on condition that the city shall assume the debt on the hospital, which amounts to $40,000, and that it provide for the efficient maintenance of the hospital as a charitable institution.

Personal.—Dr. Ennion G. Williams, state health commissioner, is reported to be ill with parotitis.——Dr. R. C. Carnal, Belona, has resigned from the Hookworm Commission and has been succeeded by Dr. Herman Gose Tartar, Wytheville.——Dr. C. H. Fowlkes, Richmond, has been appointed assistant resident physician at the Catawba Sanatorium.——Dr. George Ben Johnston, Richmond, is suffering from a slight attack of ptomaine poisoning.

Changes in County Boards.—At the meeting of the Virginia Board of Health, July 1, held at Catawba Sanatorium, the following changes were made in the county board of health: Gloucester County, Dr. Merritt Wood Healy, Bena, vice Dr. Frederick F. Davis, Sassafras. Richmond County, Dr. Robert Oliver Lyell, Warsaw, vice Dr. H. Launcelot Segar, Warsaw. Westmoreland County, Dr. G. Preston Hundley, vice Dr. Richard Henry Stuart, Norfolk; Dr. G. B. Harris, vice Dr. S. M. Asherton. Henrico County, Dr. Berkley Hancock Martin, Rio Vista, vice Dr. William A. Deas, Richmond. Dinwiddie County, Dr. I. W. McDowell, vice Dr. William Samuel Briggs, Dinwiddie. Lunenburg County, Dr. Walter E. Vest, Richmond, vice Dr. C. P. Capps. Nottaway County, Dr. William Warren, Jr., vice Dr. William V. Atkins, Blackstone. Surry County, Dr. Joseph Henry Parker, Dendron, vice Dr. William W. Seward, Surry. Montgomery County, Dr. Henry B. Pack, McDonalds Mill, vice Dr. P. B. Elliot, Blacksburg. Greene County, Dr. William E. Brown, Sheppards, vice Dr. E. W. Simms. Buchanan County, Dr. W. E. Ridder, vice Dr. R. P. Whitehead; Dr. O. E. Weatherly, vice Dr. J. H. Smith. Pulaski County, Dr. Cooper Dave Kumkle, Pulaski, to fill a vacancy. Washington County, Dr. Teeter of Abingdon, vice Dr. William Leslie Davenport, Meadowview. Bath County, Dr. Frank Hopkins, Hot Springs, vice Dr. M. Edwards.

WISCONSIN

Gift to College.—The dean of the Wisconsin College of Physicians and Surgeons, Milwaukee, announces that an anonymous benefactor has given $5,000 to the maintenance fund of the college.

Baby Station Staff Appointed.—The baby station of the Childs' Welfare Commission of Milwaukee was opened July 23. Dr. Albert W. Meyer is announced as director and Drs. Frank R. Wasielewski, Tomkiewicz, Carl Wagner, J. H. Shulz, Drozniekewicz, Henry J. Gramling, John N. Rock, Jessie Bernoski, Mina B. Zimmerman and Helen Hogan are the members of the staff.

Alumni Election.—At the annual meeting of the Alumni Association of the Medical Department of Marquette University, held in Milwaukee, July 12, the following officers were elected: Dr. William V. Nelson, Milwaukee, president; Drs. Albert E. Mieding, Milwaukee, and Henry W. Morgenroth, Oshkosh, vice-presidents; Dr. George Henry Belding, Milwaukee, recording secretary; Dr. T. W. O'Donovan, Milwaukee, financial secretary; Dr. Walter Hopper Neilson, Milwaukee, treasurer, and Drs. Daniel Hopkinson, Frederick W. Riehl and Edward Blaine, all of Milwaukee, councilors.

Personal.—Dr. John V. R. Lyman, Eau Claire, fractured two ribs and was otherwise injured in an accident between his automobile and a trolley car, July 23.——Dr. George R. Ernst, Milwaukee, has been appointed superintendent of the Blue Mound and Greenfield municipal tuberculosis sanatoria.——Dr. Adelmann B. Manley, Shopiere, was operated on for appendicitis at the Beloit Hospital, July 23.——Dr. William Judson Allen, Beloit, injured his right arm while cranking his automobile, July 23.——Dr. Edgar D. Ford, Cambria, has purchased 62 acres of land on Trout Lake and will establish a sanitarium and hospital.——Dr. Harry O. Delaney, Beloit, who fractured his knee in an automobile accident, July 16, is reported to be improving.

GENERAL NEWS

New Ophthalmologic Officers.—At the annual meeting of the American Ophthalmologic Society held in New London July 11-12 the following officers were elected: President, Dr. Edward Jackson, Denver; vice-president, Dr. Myles Standish, Boston, secretary-treasurer, Dr. William M. Sweet, Philadelphia (reelected), and corresponding secretary, Dr. Arnold Knapp, New York City.

Illinois and Iowa Physicians Meet.—The annual meeting of the Illinois and Iowa Central District Medical Society was held at Davenport, Iowa, July 13, jointly with the Scott County Medical Society, and the following officers were elected: President, Dr. George E. Decker, Davenport; vice-president, Dr. Wilton W. Adams, Atkinson, Ill.; secretary, Dr. Lawrence W. Littig, Davenport, and treasurer, Dr. Frank H. First, Rock Island, Ill.

Fraternal Medical Directors Meet.—At the annual meeting of the Medical Section of the National Fraternal Congress, held at Cambridge Springs, Pa., July 24, the following officers were elected: president, Dr. Elmore S. Pettyjohn, Knights and Ladies of Security, Topeka, Kan.; vice-presidents, Drs. Frederick F. Edmister, Knights of the Maccabees of the World, Detroit, and Charles C. Clancy, Catholic Mutual Benefit Association, Port Huron, Mich.; secretary, Dr. Walter P. Grimes, Fraternal Aid Association, Kansas City, Mo., and treasurer, Dr. Elizabeth M. Hooper, Ladies of the Maccabees of the World, Port Huron, Mich.

FOREIGN NEWS

Tribute to Rommelaere.—The friends of Dr. Rommelaere, professor of histology at the university of Brussels, Belgium, wished to celebrate the fiftieth anniversary of his entering on his professional career, but he declined any ceremony beyond the presentation of a written address. Copies of the address prepared have been placed in a leading bookstore in the four larger Belgian cities, and all the friends and admirers of Dr. Rommelaere are asked to step in and affix their signatures. The four copies are then to be presented to him, as the "Manifestation Rommelaere."

LONDON LETTER

(From Our Regular Correspondent)

London, July 22, 1911.

The Royal Commission on Tuberculosis

The royal commission on tuberculosis appointed in 1901—after Koch's famous pronouncement that human and bovine tuberculosis are distinct diseases—to investigate the question, has at last issued a final report. The members of the commission were well-known authorities, some of whom, such as the late Sir Michael Foster, professor of physiology at Cambridge, and the late Sir Rubert Boyce, professor of pathology at University College, Liverpool, have now passed away. The other members were Dr. Sims Woodhead, professor of pathology at Cambridge, Dr. Sydney Martin, professor of comparative pathology at University College, London, and Sir John McFadyean, professor of comparative pathology at the Royal Veterinary College. On the decease of the chairman, Sir William Power, chief medical officer to the local government board, was appointed his successor. The commission was instructed to inquire into three questions:

1. Whether tuberculosis in man and animals is the same disease.
2. Whether man and animals can be reciprocally infected.
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favorable, or unfavorable, to such transmission.

The inquiry was conducted on a large scale for a considerable time on two farms by the agency of several highly skilled assistants. In 1904 a first interim report was published stating that the bacilli of human tuberculosis had produced in cattle, contrary to Koch's statement, a disease indistinguishable from bovine tuberculosis. A second interim report was issued in 1907. It showed that fatal cases of human tuberculosis had been due to the typical bovine bacillus, but that all such cases examined were examples of mesenteric tuberculosis in children. A third interim report, issued in 1909, dealt with the conditions under which cows' milk is infective.

The final report confirms the work of the previous ones, except that the possibility of modifications of the two types of tubercle bacilli suggested in the second report, has not been confirmed. It is now stated that both human and bovine tubercle bacilli may be present at the same time in man, but only the bovine bacillus has been found in cattle. The bovine, human, and avian types of tubercle bacilli have all been found in natural tuberculosis in pigs, either alone or mixed. It has been proved that fatal cases of phthisis in adults may be caused by the bovine bacillus. This is important, since Koch, while three years ago accepting the statement of the commission as to fatal mesenteric tuberculosis being caused in children by the bovine bacillus, still held that all cases of phthisis in the adult were due to the human bacillus alone. The human and bovine types of bacilli are found to be morphologically indistinguishable, although different in their cultural and pathogenic properties. The human type showed a greater luxuriance of growth on all the media employed. But the bovine bacilli varied considerably in luxuriance of growth, and the gap which separates those which grew most abundantly from the human type is not wide. The bovine bacillus produces a fatal tuberculosis in cattle, rabbits, guinea-pigs, chimpanzees, monkeys, goats and pigs. The human bacillus readily produces a fatal tuberculosis in guinea-pigs, chimpanzees and monkeys, but causes, even when administered in large doses, only slight and non-progressive lesions in cattle, goats and pigs. Its effect on rabbits is not uniform; in the majority of cases these animals are only slightly affected, in others extensive and fatal tuberculosis is produced. But guinea-pigs, chimpanzees and monkeys are all highly susceptible to the effects of either the human or the bovine tubercle bacillus, and the diseases produced in these animals by both types are histologically and anatomically identical. No anatomic or clinical difference could be found in the cases of fatal tuberculosis in man, produced by the bovine and the human bacillus. Man must therefore be added to the list of animals notably susceptible to bovine tubercle bacilli. Only by slight cultural differences could the question be decided, whether the tuberculosis was due to the human or the bovine type of bacillus. The commission regards the two types as varieties of the same bacillus. On the question whether avian tuberculosis is the same as bovine or human, the commission states that there is not sufficient ground for an answer.

The second question, whether animals and man can be reciprocally infected with tuberculosis, is pronounced to be exceptionally difficult, for, though the liability of animals to infection from man could be experimentally tested, man's liability to infection from animals must remain a matter for inference. The three types of bacilli were introduced into a variety of animals, and the conclusion was that the bovine type of bacillus is more virulent than the human, but that speaking generally, mammals and man can be reciprocally infected.

The third question is under what conditions, if at all, transmission of tuberculosis from animals to man takes place. Man has been multiplying the human type of bacillus, to which he is most prone, in the bodies of other animals and thus increasing his chance of tuberculosis; but animals, domestic or other, capable of suffering from severe generalized tuberculosis of the human type, are comparatively few, and none of them are common food animals. The bovine animal, for instance, is not an active multiplier of the human bacillus, being highly refractory to this infection, and the cow herself, however prone she may be, when the subject of bovine tuberculosis, to excrete bovine bacilli in her milk, has never under natural conditions been convicted of eliminating in this way the human tubercle bacillus. Experimentally, it is true, the human bacillus has been made to appear in the milk of the cow and goat, but for securing this end, very large doses of culture have been requisite. Probably only when the cow or goat has received a large dose of tuberculosis material, derived from man, does the human bacillus escape into the blood-stream of the animal, reach her milk sinuses, and become eliminated with her milk. Nevertheless, it cannot be affirmed that man is wholly free from risk of infection through animal food with that type of bacillus to which he appears most prone, though the degree of danger is undetermined. The pig, though not capable of fostering the human type of bacilli except in a minor degree, may still be a possible source of the disease caused by that type in man, for particular glands of the pig's body, which are likely to enter into certain prepared foods, do on occasion yield bacilli of the human type. Moreover, pigs are, besides cattle, the only animals commonly used for food in which the bovine tubercle bacillus is found producing the progressive lesions of the natural disease. The commission found this bacillus in a sufficient number of cases of swine tuberculosis, to justify them in calling attention to the danger. Bovine tubercle bacilli are infective to human beings, and there is no reason to suppose that they can be rendered less so by previous residence in the bodies of pigs. In 128 cases of fatal tuberculosis in the human adult, especially in lung cases, the lesions were due, with few exceptions, to human bacilli. In abdominal tuberculosis it was very different, especially in children. Of young children dying from primary abdominal tuberculosis, nearly one-half of the cases could be referred to the bovine bacillus, and to that type alone, and there can be no doubt that a considerable proportion of the tuberculosis affecting children is of bovine origin, especially that which affects primarily the abdominal organs and cervical glands. Nor can there be any doubt that primary abdominal tuberculosis, as well as tuberculosis of the cervical glands, is commonly due to the ingestion of tuberculous infective material. A considerable portion of this material is declared to be infected milk.

PRACTICAL CONCLUSIONS

The commission declares the necessity for legislation to prevent the transmission of bovine tubercle bacilli by means of food. The existing regulations for the supervision of milk should be enforced. Bovine tubercle bacilli are found to be abundantly present in the milk sold to the public, when there is tuberculosis of the udder. Though this is well known, it is not adequately guarded against. Moreover, bacilli may be present in the milk of tuberculous cows which show no evidence of disease of the udder even when examined post mortem. Further, milk not containing bacilli as it leaves the udder, may become infected by being contaminated with discharges of a diseased animal. The report expresses conviction that measures for securing the prevention of ingestion of contaminated milk would greatly reduce the number of cases of abdominal and cervical gland tuberculosis in children, and that such measures should include the exclusion from the food-supply of the milk of the recognizably tuberculous cow, irrespective of the disease. The amount of work done by the commission may be gathered from the fact that, in addition to the four bulky reports referred to, there are eleven volumes of appendices in which every detail of the procedure is available for the guidance of future inquiry.

The expenditure of the commission to date has been $380,000. It is reported that fresh legislation against tuberculosis, based on the commission's report, will be immediately proposed by the government

The National Insurance Bill

The struggle between the profession and the government, with regard to the medical part of the national insurance bill, does not seem to be perceptibly nearer to settlement. Indeed, the British Medical Association has just issued application to the whole profession for support of a "central insurance defense fund" to be applied for the maintenance of the interests of the profession. Under the designation of a "war fund," I announced the probability of the foundation of this fund in a previous letter to THE JOURNAL. The objects of the fund are two-fold: (1) to assist in defraying the heavy administrative expenses which are necessary both to secure amendments to the insurance bill demanded by the profession, and to organize the profession with a view to such action as may be found necessary in the event of the bill becoming law; and (2) to provide compensation or pecuniary assistance for practitioners who, in the event of the bill becoming law, may incur loss or may require support in respect of action taken through loyalty to the profession. All expenses in connection with the campaign have been defrayed up to the present by the British Medical Association out of its general funds. Many members of the association have indicated, however, their desire to contribute specially to the expenses of the campaign, and members of the profession who are not members of the association have also sent contributions, stating that they feel that the entire cost of the campaign should not be allowed to fall on the association. Though the efforts of the profession have induced the government to agree to several of the points demanded (described in previous letters to THE JOURNAL), two of the most important are still unsettled—the income limit of the insured and freedom from friendly society control. If the bill should pass in an unsatisfactory form in these two respects, it will be necessary to use the existing union of the profession for the purpose of still enforcing its demands under the bill as enacted. In these circumstances, some physicians might be threatened with such pecuniary difficulties as they could not face, and the interests of the profession might demand that they should be duly compensated or supported during the struggle. Moreover, although the profession should succeed in securing amendments of the bill meeting every point which is possible, questions of the greatest importance would still require adjustment, especially as to the method and amount of remuneration of the doctors who enter into arrangements for attendance on the insured. Although these questions from their nature must be settled by local agreement, the profession in each district must be supported by the profession as a whole, and cases will doubtless arise in which compensation or assistance to individuals must be given. Finally, the case of those who now hold contract practice appointments may demand special attention. Attempts may be made to induce present holders of such appointments to continue in office when the societies with which they are connected become approved societies under the bill, or inducements may be held out to them to retain existing appointments under organizations which may not become approved societies and which the profession may regard as unsatisfactory. As the act does not come into force until May, 1912, and medical benefits do not begin until six months later, claims for compensation will probably not arise till the latter part of 1912. The association has therefore decided that contributions should take the form of guarantees, a small proportion of which may be called up at the discretion of the council of the association to meet administrative expenses, while the balance will be called up only as required. The council now applies to the profession for a guarantee fund of $750,000. To raise this sum an average guarantee per doctor of $25 is necessary. Those whose incomes are below the average cannot be expected in all cases to guarantee this amount. The average can therefore be maintained only by the more prosperous guaranteeing higher amounts. A form of guarantee has now been sent to all doctors with a request to pay $1 down. A memorandum stating the case for the profession has been issued by the British Medical Association in consequence of representations made to it by members of Parliament. It points out (1) that the doctors differ from most persons whose interests have to be considered in connection with the bill; (2) that they are a body of potential employees on whose efficiency the attainment of the objects of the bill depends to a large extent; (3) they are also a body whose present means of livelihood would be seriously injured by the operation of the bill. They recognize that in the public interest some state interference with the existing conditions of medical practice are inevitable and they are willing to fall in with such proposals, so far as is necessary. On the other hand, they ask that the interference shall not be carried beyond the point necessary for the achievements of the public objects of the bill. The section of the community whose incomes exceed $10 a week can afford to and do employ doctors in a very large proportion of cases. There is therefore no necessity for state interference to obtain for them medical attendance. If they require any assistance, it is only as regards the attendance necessary in cases requiring special skill and institutional treatment. The treatment of disease by the ordinary medical attendant of a patient can be carried out with most benefit on the lines of private practice. Hence a large proportion of the members of the friendly societies, though entitled to contract attendance, at present prefer to pay a private doctor.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, July 21, 1911.

Appointments at the Paris Medical School

The Council of the Faculté de médecine, a few days ago, held elections to recommend candidates for various chairs. For the chair of internal pathology, resigned by Professor Dejerine in favor of that of clinical neurology, Dr. Teissier, an *agrégé* professor, was recommended to the ministry of public instruction. For the chair of physics the Council recommended Professor Weiss, *chef des travaux pratiques*, to succeed Professor Gariel, who has retired. For the chair of history of medicine, resigned by Dr. Chauffard, who was appointed professor of clinical medicine, the Council recommended Dr. Maurice Letulle, who is well known for his works on pathologic anatomy. Unfortunately when the chair of pathologic anatomy was vacant over two years ago through the death of Professor Cornil, the place was filled by the nomination of Dr. Pierre Marie, who had devoted himself for a long time to neurology. Hence, instead of applying the principle of "the right man in the right place," we have a distinguished neurologist teaching pathologic anatomy and a pathologic-anatomist, who instead of teaching pathologic anatomy is about to give a course in the history of medicine.

Election of Two National Associates at the Academy of Medicine

On July 4 the Académie de médecine elected two national associates, Dr. de Brun, professor of pathology and clinical medicine at the Faculté catholique et française de Beirut, and Dr. Herrgott, professor of clinical obstetrics at the Faculté de médecine de Nancy.

Personal

On July 10, Dr. Renaut, professor of general anatomy and histology at the Faculté de médecine de Lyon, was elected national correspondent for the section of zoology and medicine of the Académie des sciences to replace the deceased Professor Sabatier.

Measures Against Cholera

The prefect of police of Paris has just addressed to all physicians practicing in the Department of the Seine a circular calling attention to the situation created in France by the progress of cholera in Europe and to the duties consequently incumbent on physicians. Last year cholera affected more than 200,000 persons in Russia and caused more than 100,000 deaths. It was, moreover, found in the valley of the Danube and in several provinces of Italy. It has reappeared this year in Naples, Palermo and Venice, where the scourge has been very disquieting. All the medical congresses which were to have been held at Rome during the vacation season, including the International Congress of Tuberculosis, have been postponed until next spring. Cholera has raged also in Constantinople. It is to be feared that new centers of infection may appear in Europe, and the city of Paris, which attracts so many strangers, needs to take every precaution to defend itself. In addition to the surveillance of travelers coming from infected countries exercised at the frontier, on the lines of travel and in the railway stations in Paris, there is need of a local system of defense. It is especially important that the first suspicious case should be known without an hour of delay. The prefect of police accordingly reminds physicians that the law of 1882 in regard to the sanitary police makes it obligatory for the physician (or failing the physician, the head of the family or the lodger) to declare immediately every case of disease suspected of being cholera, without waiting for the disease to become manifest.

The municipal council of Paris has just voted the appropriation asked by the prefect of police for sanitary measures to be taken in railway stations to prevent the introduction of cholera. A rigorous oversight of immigrants is also sought to be established. The bureau of the commission of hygiene of the chamber of deputies has just represented the minister of the interior of the urgent character of the bill with regard to the oversight of immigrants passing through or staying in France. As there was not time to put this measure to the vote before the parliamentary vacation, the government will promulgate by decree the most urgent measures recommended by the commission.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, July 13, 1911.

Personal

Professor R. Köhler, curator of the Augusta Hospital in Berlin, has just died, aged 70.——Professor Weber, of Halle, celebrated the semicentennial of his doctorate, July 10.——Professor Rössler, of Munich, has accepted a call to Jena as professor of pathologic anatomy.——Professor Leopold, director of the gynecologic clinic at Dresden, will resign his position October 1.

Professor E. Grawitz, director of the department of internal medicine in the municipal hospital at Charlottenburg, died in that city, July 11, of heart disease, aged 51. Grawitz, who was a brother of the pathologist of Greifswald, was originally a military surgeon, but later became prosector at the Augusta hospital in Berlin and then assistant to Gerhardt in the second medical clinic at the Charité. He was very active in a literary way and has worked in various fields of internal medicine. His principal sphere of labor was hematology, in which he make his influence felt as an original investigator. Of his published works the following are well known: his text-book on the clinical pathology of the blood, his contribution, "Diseases of the Blood and So-Called Blood-Making Organs," in the "Handbook of Practical Medicine" of Ebstein and Schwalbe and in Schwalbe's "Text-Book of Diseases of Old Age," and his "Technic of Clinical Examinations." Grawitz was much sought after as a consultant and was a man of a very kindly disposition.——July 23 Professor Waldeyer celebrated the semicentennial of his doctorate.——July 25 occurred the celebration of the seventieth birthday of the Königsberg pharmacologist, Professor Jaffé.

German Universities in the Summer Semester of 1911

Since the establishment of the empire the number of students at the German universities has regularly risen from about 13,000 until in the middle of the 80's it had already doubled and the threatened overcrowding of academic pursuits was recognized. The German student body tripled its original number by 1904, and reached in the current summer 57,230 as compared with 54,847 in the previous year. Of the entire number of students to-day 54,678 are men, 2,552 women; of these at present about 53,000 belong to the empire and about 4,300 are foreigners. A comparison of the figures for the different departments for the present and previous year and for 1906 shows what changes in the direction of studies have occurred in consequence of the influence of the needs of the state and society and especially what occupations are favored. In this respect the rapid growth of medicine as a profession is striking; the number of medical students rising from 6,683 in 1906 to 10,682 last year and now to 11,927. Nearest to them stand the students of philosophy, philology and history who number at present 16,158 as compared with 15,475 and 10,832; mathematics and natural science, 8,442 (last year 7,937, in 1906, 6,323); law, 11,023 (11,323 and 12,375); evangelical theology, 2,825 (2,507 and 2,329): of catholic theology, 1,834 (1,840 and 1,841); political economy and agriculture, 2,729 (2,406 and 1,801); pharmacy, 916 (1,147 and 1,767); dentistry, 1,046 (1,264 and 755); forestry—only matriculated in Munich, Tübingen and Giessen, 170 (123 and 114), and of veterinary surgery—only matriculated in Giessen 160 (141 and 114). According to this the number of law students has diminished in consequence of the overfilling of the profession and this is still more the case with pharmacy. The recent reduction in the number of dental students is to be attributed to raising the entrance requirements and the lengthening and increase in cost of the course.

Of the present student body 28,981 are enrolled at the ten Prussian universities as compared with 27,577 in the summer of 1910. At the three Bavarian there are 9,445, last year, 9,369; at the two Baden, 5,532 (1910, 5,279), and in the other six state schools, including the imperial at Strasburg, there are 13,222 as compared with 12,602 in 1910. The university of the metropolis stands at the head, having at present 8,039 students, including 695 women, as compared with 7,902 and 626 last year.

All the universities except Giessen have gained this year, most markedly Greifswald, Kiel, Rostock and Halle, and least, Heidelberg, Münster and the three Bavarian universities.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, July 15, 1911.

Personal

At present there are two medical posts vacant in this country: one at the clinic for internal medicine in Innsbruck, from which Ortner was called to Vienna to succeed von Strumpell, and the other at the pharmacologic institute of the German university in Prague. The latter has become vacant through Professor Pohl's acceptance of an appointment at Breslau.

The following scientists have been recommended in the order named for the vacant posts: for Innsbruck, Professor Pfeiffer from Graz, well known for his researches on serology, hematology and diseases of the lungs; Docent Dr. Schmidt (Vienna), and Professor von Tabora from Strasburg and also Professor Walks from Prague; for the pharmacologic institute, Professor Cloetta from Zurich (whose name has a very good reputation), professor Wiechowski, who is at present an assistant of Horst-Meyer in Vienna, and Professor Jodlbauer in Munich.

Warnings to Students Against Taking up the Study of Medicine

At the seventy-fifth meeting of the Central Union of German physicians in Bohemia, Dr. Fischel, the president, moved a resolution, that the students just about to enter the university should be warned against turning to medicine. "They should be informed that within the last five years the number of medical students in this country has risen from 2,509 to 5,319, that is, 112 per cent., while the number of all university students has increased by barely 40 per cent. They should also consider that fully one-third of all practitioners in Bohemia earn less than 2,000 kronen ($400) a year, and that the number of doctors has increased in the last two decades by 76 per cent.; the population, however, has increased only by 19 per cent. The new social insurance act, which will become a law within a few years, will further contribute to diminish the scope of a doctor by turning a large percentage of possible private patients into the domain of practice served by the clubs.

Therefore, the representatives of the Bohemian practitioners earnestly advise against selecting a profession which even now does not give a satisfactory outlook for those engaged in it, and which tends to become still less remunerative and satisfactory for at least twenty-five years to come." The resolution was adopted, suitable leaflets were distributed among the students and information given out to the public through the newspapers and lay publications.

The Closing of the Old Medical Clinic

With the end of the present summer term, Professor von Noorden, the director of the first medical clinic in Vienna, bade the old institute farewell in an eloquent speech to his students on its history. In a couple of weeks the new clinic in the grand new hospital will be opened, and meanwhile no new patients will be admitted to the old clinic. Since 1846, when the famous Skoda became the director of the institution, its location has not been changed. In 1872 Skoda was succeeded by Duchek, who stayed there ten years. Both these famous clinicians had to teach the students at the bedside, for there was no clinical theater or laboratory. First, when Nothnagel in 1882 was appointed to the clinic, a lecture hall was built and a laboratory added to the equipment. Since then it became a Mecca of students and nearly the entire present generation of Austrian practitioners were pupils of the famous teacher. When, after the death of Nothnagel, von Noorden, the present professor, was appointed, he did not believe that he would have to wait fully five years before he could move out of the crowded, unhealthy, narrow and antiquated clinic into a modern up-to-date institute. In the course of his speech von Noorden explained how bitterly he resented the necessity of abstaining from the application of modern therapeutics, from sheer want of space and means. Nevertheless, the results obtained in these wards were not entirely disappointing in respect to the care of patients and the teaching.

The wards to be emptied now will be used for the clinic for mental diseases and as receiving-wards for temporary observation of patients. In a few years (three or four) the entire building will be pulled down, and all the clinics will by that time already have moved to their new locations, while the space of the old hospital will be turned into streets and gardens.

Marriages

Clarence David Rollins, M.D., Lake City, S. C., to Miss Pauline Manning Woodley, of Dawson, Ga., June 21.

Thomas B. O'Keefe, M.D., Grand Rapids, Mich., to Miss Lettie A. Whitcomb of Vassar, Mich., July 12.

William Oscar Baird, M.D., Henderson, Tenn., to Miss Birdie Wardlow, Pocahontas, Tenn., June 28.

Charles Delbert Gamble, M.D., to Miss Mildred Margaret Welch, both of Spencerville, O., June 20.

Lucius C. Pardee, M.D., Chicago, to Mrs. Anna M. Trumbull, at Old Mission, Mich., July 1.

Harry Gallagher, M.D., Glenolden, Pa., to Miss Anna Healy Cuthbert, of Ridgway, Pa., July 1.

Thomas J. Williams, M.D., Hiteman, Ia., to Miss Myrtle Welch of Pasadena, Cal., July 3.

Freeman Allen, M.D., to Miss Ethel Gibson, both of Boston, at Nahant, Mass., July 19.

Pinkney Lee Davis, M.D., Baltimore, to Mrs. Grace Barker, at Philadelphia, July 20.

Augustus F. House, M.D., to Miss Helen E. Wolpert, both of Cleveland, June 26.

Nathan Herman, M.D., to Miss Sadie Loeb, at Baltimore, July 9.

Deaths

Edwin Augustus Lewis, M.D. Bellevue Hospital Medical College, 1873; for several years professor of anatomy in Long Island College Hospital; a bridge commissioner of the Brooklyn Bridge for twenty years; for two years police surgeon of Brooklyn, and for two years surgeon for the fire department; surgeon of the Twenty-Third Infantry N. G., N. Y., from 1876 to 1885; visiting surgeon at the Brooklyn, Long Island, St. Katherine's and Flatbush hospitals; who retired from practice in Brooklyn in 1895; died at his home in Englewood, N. J., July 17, from cerebral hemorrhage, aged 64.

James U. Barnhill, M.D. Columbus (Ohio) Medical College, 1883; a member of the American Medical Association, American Academy of Medicine, Mississippi Valley Medical Association and Columbus Academy of Medicine; chancellor and professor of principles of surgery in the Ohio Medical University; for nine years editor of the *Columbus Medical Journal*; surgeon to Mount Carmel and the Protestant Hospital; a member of the Columbus board of education, board of health and of the local board of pension examining surgeons; died at his home in Columbus, July 27, aged 57.

Fred Albert, M.D. University of Iowa, Iowa City, 1906; a member of the Iowa State Medical Society; president of the Iowa Association of Health Officers; assistant to the chair of bacteriology in 1904, and assistant professor of internal medicine in his alma mater in 1906; associate bacteriologist of the auxiliary laboratory of the state board of health; a member of the staff of the City Park Hospital, Mason City, Ia.; health officer of Mason City and examiner for the Iowa State Tuberculosis Sanatorium; died at his home in Mason City, July 21, from typhoid fever, aged 30.

Henry V. Logan, M.D. University of Pennsylvania, Philadelphia, 1880; of Scranton, Pa.; a member of the Medical Society of the State of Pennsylvania and a fellow of the American Academy of Medicine; a member of the staff of the State Hospital of Northeastern Pennsylvania, the Pennsylvania Aural School for Deaf, and West Mountain Sanatorium for Consumptives; died in the Presbyterian Hospital, Philadelphia, July 12, from septicemia, contracted a year ago while performing a surgical operation, aged 59.

Albert G. B. Hinkle, M.D. University of Pennsylvania, Philadelphia, 1857; for many years a practitioner of Philadelphia; a member of the College of Physicians of Philadelphia and of the Philadelphia County Medical Society; died at Wood Lea Sanitarium, Ardmore, July 19, from the effects of heat exhaustion, aged 79.

Alden Gifford, M.D. Hahnemann Medical College, Chicago, 1879; for many years a practitioner of Watertown and Rome, N. Y.; died at the home of his daughter in Knoxboro, N. Y., July 19, aged 80.

John Randolph Brown, M.D. Medical College of Indiana, Indianapolis, 1882; for many years assistant superintendent of the Central Indiana Hospital for the Insane, Indianapolis; and later assistant superintendent of the East Tennessee Hospital for the Insane, Knoxville; a specialist on nervous and mental diseases, and a director of the Fletcher Sanitarium, Indianapolis; died in the home adjoining that institution, July 15, from a nervous breakdown, aged 56.

Malcolm Graham, M.D. Long Island College Hospital, Brooklyn, 1865; a member of the Michigan State Medical Society and vice-president of the Hillsdale County Medical Association; a life member of the State Horticultural Society; well known as a scientific fruit grower; died at his home in Jonesville, July 17, from the effects of an accidental fall six weeks before, aged 62.

Henry Alexander Cleland, M.D. University of Michigan, Ann Arbor, 1861; formerly president of the Detroit Academy of Medicine and a member of the staff of the Children's Free Hospital; a veteran of the Civil War in which he served as assistant surgeon of Michigan Volunteers; died at his home in Detroit, July 19, from heat exhaustion, aged 72.

John Sanford Halbert, M.D. University of Buffalo, N. Y., 1872; formerly police surgeon of Buffalo and for twenty-five years obstetrician to the Buffalo Homeopathic Hospital; resident physician of the Erie County Almshouse; died in a hospital at Rochester, Minn., July 17, after a surgical operation, aged 55.

Hugh Pitcairn, M.D. Hahnemann Medical College, Philadelphia, 1880; president of the Altoona *Tribune* Company; and Consul General of the United States in Hamburg, Germany, from 1897 to 1908; died at Hamburg, July 19, from carcinoma of the stomach, aged 65.

Sidney Mitchell, M.D. University of Michigan, Ann Arbor, 1879; a member of the Medical Society of the State of New York; for more than a quarter of a century a practitioner of Saranac, and some-time health officer of that city; died at his home, July 13, aged 58.

Michael Francis Foley, M.D. Bellevue Hospital Medical College, 1891; formerly a member of the American Medical Association; surgeon to St. Mary's Hospital, Hoboken, N. J.; died suddenly at his home in New York City, July 20, from dilatation of the heart, aged 43.

Samuel L. Jones, M.D. University of Louisville, Ky., 1894; a member of the Tennessee State Medical Association; dean and professor of physical diagnosis and diseases of the chest in Tennessee Medical College, Knoxville, died July 20, aged 57.

Edmund George Lind, M.D. Atlanta (Ga.) Medical College, 1887; of Washington, D. C.; chief fiscal officer of the Federal Reclamation Service; died at the home of his sister in Greenville, Del., July 18, a month after a surgical operation, aged 45.

Leonard E. Knapp, M.D. Cleveland University of Medicine and Surgery, 1869; for several years president of the village of Fenton, Mich.; and a member of the board of education; died at his home, July 14, from paralysis, aged 68.

Charles C. Hill (license, Arkansas, 1903); for thirty years a practitioner of Scott County, Ark., and a resident of Beauchamp; died at Brawley, Ark., July 15, from skull fracture, the result of a fall from a high porch, aged 63.

Francis Slade Pugh, M.D. Birmingham (Ala.) Medical College, 1901; of Brookside, Birmingham, Ala.; died at the home of his sister near Roxobol, Ala., July 8, from nephritis, aged 48.

James Early Finley, M.D. Medical College of Ohio, Cincinnati, 1864; a native and life-long resident of Mt. Pleasant, O.; died at his home in that village, July 14, aged 74.

James W. McKee, M.D. Western Reserve University, Cleveland, 1870; University of Wooster, Cleveland, 1872; died at his home in Blue Island, Ill., July 21, aged 66.

Charles M. Beckler, M.D. Medical College of Ohio, Cincinnati, 1889; formerly of Cincinnati; died at his home in Blanchester, O., July 12, aged 43.

Francis W. Wrinn, M.D. Yale University, New Haven, Conn., 1904; of Long Island City, N. Y.; died at his summer cottage at Cosey Beach, July 17.

Watson L. King, M.D. Cincinnati College of Medicine and Surgery, 1874; of Granville, O.; died near Bathley, Yorkshire, England, July 2, aged 63.

Samuel H. Johnson, M.D. Chicago Homeopathic Medical College, 1886; died at his home in Califon, N. J., June 26, from paralysis, aged 53.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION.]

LIQUID LIFE

W. A. Puckner and L. E. Warren

A physician wrote to The Journal that for six years one of his patients had been taking about fifty bottles annually of a preparation called "Liquid Life;" he requested information concerning the composition of the remedy. The inquiry was referred to the Association's laboratory.

The price of the preparation being 75 cents for each bottle it seemed a pity that patients like this one should continue to be separated from their money by a nostrum which, from its name and descriptive circulars, appeared to be a sham. Hence it was explained to the correspondent that if he would send an original package of the preparation to the Association's laboratory a cursory examination would be made—sufficient in all probability to show his patient the folly of her faith in the nostrum.

An original package of "Liquid Life" having been received a cursory examination of it was made, which showed that the preparation is essentially an aqueous solution of Epsom salt, containing some Glauber's salt, the mixture being sweetened with saccharin. The facts brought out by the cursory examination having shown that the preparation is an outrageous imposition on the public, it was decided to make a more complete investigation with the view of publishing the results.

On the label of "Liquid Life" the nostrum is described in part as follows (the spelling and diction being exactly transcribed):

> "LIQUID LIFE
> A
> TRUE ANTITOXINE
>
> This antitoxine is non-poisonous and non-alcoholic. It will expel all alcohol from the system at once, and so requires a great deal more antitoxine and time to effect a cure if any alcohol is used while taking it, but you can use whatever tobacco you have been accustomed to."
>
> Arrests Diseases and Prevents the Development of Germs
>
> "All contagious diseases are germ diseases, and manifest themselves first as headache, pain in the back, lassitude and rise of temperature, at this stage a few doses of the antitoxine will arrest them at once and prevent any further development of the germs, no matter what their nature may be."
>
> The Patient Shouldn't Meddle with the Leucocytes!
>
> "It is important that their should be no interference with the action of the leucocytes or white corpuscles by using purgatives or drugs of any kind while taking the antitoxine. If the bowels move very freely at first they will check them later, and if they do not move, wait till they do."

A paragraph taken from the circular describing "Liquid Life" is given herewith. Considering its length, it is submitted as probably being the most faulty in diction, the most replete in false statements and the most barren of truthful suggestions of any paragraph in "patent medicine" literature.

> "THE HOME PHYSICIAN
> Why Liquid Life Makes One.
>
> First, it is antitoxine to all contagious diseases and so removes the fear of infection from the family. If given early, acts as a preventive, given later subdues the disease; is non-poisonous and non-alcoholic; there are no reactions or bad effects from it no matter how long it is taken. It contains in itself everything with the exception of food that should be taken into the stomach to keep the family in perfect health. Children born under the influence of the antitoxine, are just splendid and remain so after birth and grow up symmetrical with a healthy body and a clear brain, for when a dose of the antitoxine is given you call into action not only one physician but millions (the Leycocties) and every one of them is a supernal surgeon and their power to restore the body to health is supreme, even in those diseases that have been found difficult to cure before, such as Pneumonia, Catarrh, Appendicitis, Blood Poison from any cause, Syphilis, Cancer, Malignant Diptheria, Erysipelas, Scrofula, Tetanus or Lockjaw, Consumption, all Fevers, Rheumatism, Womb diseases, Bright's Disease, Diabetes and other diseases called incurable. Ladies will find the antitoxine is all they require to keep themselves in perfect health, and if taken for a short time before confinement will relieve them of half the pain and danger. It can also be used externally with marvelous effect in all cases requiring outside applications, or injected into all the orifices of the body where there is disease, in fact, being a true antitoxine, it solves the problem of Health and Disease.'

To those conversant with the principles of medicine the reading of the label and circulars would alone be sufficient to condemn the nostrum as a humbug. Others might, however, be impressed as strongly by this jumble of meaningless phrases and vicious misrepresentations as by a logical and truthful statement of facts.

The labels indicate that "Liquid Life" is manufactured by the T. B. Chemical Co., Newark, N. J. The preparation is a pale yellow, faintly fluorescent liquid, having a faint, peppermint-like odor and a harsh, disagreeable taste. The presence of magnesium, sodium, a sulphate and small amounts each of saccharin, zinc and quinin was demonstrated by the usual tests. Ammonium salts were absent. The absence of cocain, morphin and their derivatives and substitutes was shown.

Quantitative determinations indicated that the composition of "Liquid Life" is essentially as follows:

Crystallized quinin sulphate	0.0566	gm. in 100 c.c.
" zinc sulphate	0.2416	gm. in 100 c.c.
" magnesium sulphate (Epsom salt)	13.34	gm. in 100 c.c.
" sodium sulphate (Glauber's salt) (Calculated from sodium determination)	6.17	gm. in 100 c.c.
Saccharin		a trace.
Water (by difference) to make		100 c.c.

Secret nostrums—the so-called "patent medicines" sold to the public—are of two classes: One is harmless in itself, in that it contains but little or none of any medicinal substances and is potent for harm only in so far that it restrains the user from seeking competent treatment; the other not only keeps the sick person from receiving the treatment which is indicated but contains ingredients which, when used indiscriminately, are potent for harm. Both classes are humbugs, especially because a large price is charged for what is usually worth but a few cents. In both classes there are all degrees of humbugs. "Liquid Life" easily belongs to the second class and is an example of the worst in this class. Besides containing the poisonous ingredient, zinc sulphate, its chief ingredient is Epsom salt, the long continued use of which always does harm. When it is considered that during six years one patient consumed between $200 and $300 worth of the stuff (as sold at retail) the "degree" of the humbug may be appreciated.

In connection with the claim of the manufacturer that "Liquid Life" is "a true antitoxine" the following definitions for an antitoxin are given:

> "A substance formed in the body, which neutralizes the poisonous products of a micro-organism; a defensive proteid." (Standard Dictionary).
>
> "Any defensive proteid developed in the body as a result of the implantation of a poison, and acting as a neutralizer of the poison." (Dorland's Medical Dictionary).

In view of these definitions and of the findings of the analysis the absurdity of the claim that "Liquid Life" is "a true antitoxine" is patent.

Inasmuch as the courts have recently ruled that under the present Food and Drugs Act it is permissible to lie as to the curative properties of a preparation so long as no false statements concerning its composition are made, it would be interesting to know whether the assertion that the remedy contains "a true antitoxine" would be considered as a violation of the law; also whether the name "Liquid Life" would be held to be a false statement as to composition, or whether the learned justices would consider the name (although a deliberate lie) a permissible claim for the virtues of the remedy.

The Danger of Short and "Catchy" Titles

Several times pharmacists have dispensed "lysol," a proprietary cresol preparation, when "laxol," a castor oil nostrum, was intended. Now it is reported that "calomel" was dispensed with serious consequences when "calamus" was intended. The employment of the descriptive title "mild mercurous chlorid" or "hydrargyri chloridum mite" for calomel would have avoided this mistake. It illustrates the danger that lies in short, catchy titles.

Correspondence

Are Jews Immune to, Pellagra?

To the Editor:—It is well known that the Jews show a marked racial tendency to disease of the skin. Possibly for this reason, in twenty years of dermatologic practice, though not of that race, I find that a large proportion of my patients have been Jews. In the last few years, in hospital, clinical and private work, I have seen a large number of cases of pellagra, but no single instance of the disease in Hebrews. Casual inquiry among my colleagues has shown that my experience is not unique. Is there a racial immunity to pellagra in Jews? In seeking a wider field of inquiry, I shall be obliged to readers of THE JOURNAL for information bearing on this point. If the observation is correct, it would aid *somewhat in a negative fashion* in the solution of this difficult etiologic problem. The Jews are not eaters of corn-bread, do not use other articles of diet that are under suspicion, and are urban as a class.

BERNARD WOLFF, Atlanta, Ga.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE ALLEGED AURA SURROUNDING THE BODY

To the Editor:—The newspapers have been reporting some remarkable seances that have occurred in Chicago at which an aura was demonstrated, apparently surrounding the body. The dispatches stated that the aura indicates the presence and character of disease. What are the facts regarding this demonstration? If you publish an answer to this, please do not print my name.

X. Y. Z., Milwaukee.

ANSWER.—Several queries similar to above have been received. The "demonstrations" in question have been conducted by the manager of a publishing company which has published a book by a London physician reviewed in last weeks' issue. "Demonstrations" have also been conducted by a Chicago physician at one of the local hospitals. On invitation, a representative of THE JOURNAL attended two of the former demonstrations. After a rambling talk by the demonstrator, those present were taken into a room equipped with double curtains and with strips around the doors and windows to exclude all light. Each was provided with a double glass slide filled with a dark blue fluid, and was told to hold this screen before the eyes for some five or ten minutes in order, as the demonstrator explained, to "saturate the eyes with rays." The curtains were then drawn down and the room darkened as completely as possible. The subject for demonstration, a woman model, stripped to the waist, was then placed in front of a black curtain. Each observer was given a "screen" containing a weaker solution of the same fluid through which he was told to gaze at the model. The demonstrator asserted that a band or strip of light, caused by the emanation of rays from the surface of the body, would be seen surrounding the entire body close to the skin and extending outward for a distance of 8 to 10 inches, also that on approximating the fingers of the demonstrator to the fingers of the model and drawing them away slowly, light rays would be seen passing from one hand to the other and forming a band of light similar to the "rays" from a static electric machine. Our representative three times endeavored to see the "aura" at each of the demonstrations he attended but was unable at any time to detect anything except the normal outline of the body. The phenomena said to be observed by some of those present can be accounted for in two ways: First, self-deception, in that the majority of observers are inclined to see or to try to see what they are told to see; second, optical illusions due to the overstraining of the eyes in gazing at the bright sunlight outside through the colored screen, to the sudden darkening of the room, to the dilatation of the pupils in the effort to accommodate and to the projection of the white outlines of the body on the black background. The so-called "outer envelope," the black line said by the demonstrator to surround the body at a distance of 1/8 of an inch from the skin, is simply a double outline of the body surface, seen when the eyes are focused on some intermediate point, as the median line of the arm. This appearance is well known in physics and can easily be demonstrated on inanimate objects as books, etc.

Even if the claims of the demonstrators as to the existence of the "aura" could be substantiated, its importance or value as a diagnostic aid would still remain to be proved. For instance, even if the "aura" exists, it will still be necessary to prove first, that it is actually composed of rays emanating from the body; second, that this emanation is in any way affected by disease; third, that variations caused by disease are positive and constant, and fourth, that each disease modifies the "aura" in a peculiar and distinctive way. None of these points has been in any way proved, either by the book or by the demonstrator but, on the contrary, assertions have been made without a particle of evidence. The entire matter impresses one as being another instance of self-delusion, plus commercialism. No doubt before many months we shall have a new sect of healers who will base their system of diagnosis, pathology and treatment on the "aura." Whether they will be called "aurites" or "auropaths" remains to be seen. The claims of the writer and the promoters of the book are not worthy of serious consideration, as they will not stand the most superficial investigation.

BOOK DISINFECTION BY GASOLINE AND PHENOL

To the Editor:—Some time ago I saw in the newspapers an item on a new way to disinfect books with gasoline and carbolic acid. Can you give me the details? The item interested me because formaldehyd has proved ineffective for closed books, and we need some method involving less expense than the destruction of the books.

H. S., Cincinnati.

ANSWER.—Our correspondent refers to an article by Dr. W. L. Beebe in the *Journal of the American Public Health Association*, January, 1911. An abstract of this article appeared in THE JOURNAL, Feb. 18, 1911, page 538. Dr. Beebe has experimented with a solution of 2 per cent. of phenol (carbolic acid) in gasoline, and has found it effective and harmless. It seems to penetrate every portion of the book, carrying the germicide with it, and does not mar the book in any way if it is allowed to dry before being handled.

DOUBLE ECTOPIC GESTATION

To the Editor:—Please give references to the literature on double ectopic gestation.

H. C., El Paso, Texas.

ANSWER.—The following articles on this subject may be referred to:

Chandler, S.: Double Extra-Uterine Pregnancy, *New York Med. Jour.*, Aug. 15, 1903.

Greenberg, H.: Bilateral Tubal Pregnancy, THE JOURNAL, Aug. 17, 1907.

Barker, M. R.: Double Extra-Uterine Pregnancy, *Surg., Gynec. and Obst.*, 1907, v, 132.

Bielyayeff, D.: Pregnancy Simultaneously in Both Fallopian Tubes, *Med. Obozr. Mosk.*, 1908, lxx, 820.

McCalla, L. P.: Pregnancy, Twin Tubal and Bilateral Tubal, *Surg., Gynec. and Obst.*, March, 1909.

Norris, C. C.: Primary Ovarian Pregnancy, Report of Case Combined with Extra-Uterine Pregnancy, *Surg., Gynec. and Obst.*, August, 1909.

Labhardt, A.: Simultaneous Tubal Pregnancy on Each Side, *Beitr. z. Geburtsh. u. Gynäk.*, xiv, 1.

Duret, H.: Grossesse tubaire ou hématosalpinx doubles, *Jour. d. sc. méd. de Lille,* 1909, ii, 73. *Rev. mens d. gynéc.*, d'obst. *et de pédiat.*, 1909, iv, 257.

Wilson, T. G.: Ruptured Bilateral Tubal Pregnancy, *Australasian Med. Gaz.*, April, 1910.

Burty, H.: Grossesse extrautérine double rompue à droite, non rompue à gauche, opération, guérison, *Paris chir.*, 1910, ii, 45.

Findley, P.: Bilateral Tubal Pregnancy; Coincident Development, *Surg. Gynec. and Obst.*, 1910, xi, 28; *Tr. Am. Gynec. Soc.*, 1910, xxxv, 26.

Süssmann, F.: Doppelseitige Tubar Schwangerschaft, *München. med. Wchnschr.*, 1910, lvii, 1341-1343.

A CERTAIN METHOD OF OBTAINING THE KNEE-JERK

To the Editor:—Dr. Curran Pope describes in THE JOURNAL, June 10, 1911, p. 1705, a method to obtain the patellar reflex. This method is a very good one and can certainly be recommended. I saw it first time in the neurologic clinic of the Johns Hopkins Hospital, where Prof. H. M. Thomas has been using and teaching it for many years. All the essential points of it are pictured in "Allgemeine Diagnostik der Nervenkrankheiten," by Dr. Paul T. Moebius, first edition, 1886, page 125, Figure 37.

Dr. Thomas has somewhat elaborated the method by placing the finger over the tendon and determining that it is relaxed. This secures an easy method of estimating both the force of the blow of the hammer and the response. The method is more widely known than Dr. Pope seems to think; at least practically all graduates of the Johns Hopkins Medical School have been taught to use it.

C. DENCKER, Chicago.

The Public Service

Medical Department, U. S. Army

Changes during the week ended July 22, 1911:

Holland, Joseph N., lieut., left San Antonio with the Fifteenth Infantry en route to Fort Douglas, Utah.

Jenkins, F. E., M.R.C., left San Antonio, Texas, with troops, en route to Fort Leavenworth, Kan.

Williamson, L. P., lieut., returned to Fort D. A. Russell, Wyo., from duty at San Antonio, Texas.

Hall, W. E., M.R.C., left San Antonio, Texas, with troops en route to station, Whipple Barracks, Ariz.

Hewitt, John M., M.R.C., left U. S. Military Prison, Fort Leavenworth, Kan., on twenty days' leave.

Rich, Edwin M., captain, is hereby relieved from his duties as attending surgeon, Headquarters, Department of California, will perform the duties of attending surgeon, Headquarters, Western Division, San Francisco.

Ballard, James C., M.R.C., will, in addition to his duties at Fort Miley, Cal., perform the duties of attending surgeon, Headquarters, Department of California, San Francisco.

Bartlett, Cosam J., major, assigned to duty as inspector and instructor, the Hospital Corps, Organized Militia of Massachusetts, Essex and Middlesex counties, from July 25 to 30, 1911.

Ford, Joseph H., major, ordered to Sea Girt, N. J., as inspector and instructor, Organized Militia, from July 22-29 and from July 29 to Aug. 5, 1911, Sanitary Troops.

Hopwood, L. L., captain, ordered to Culpepper, Va., as inspector and instructor, Organized Militia, Sanitary Troops, July 23 to 29, and July 30 to Aug. 6 and Aug. 6 to 12, 1911.

Little, William L., captain, ordered to Quonset, R. I., July 23-30, as inspector and instructor, Organized Militia, Hospital Corps.

Long, Charles J., dental surgeon, will proceed to Philippine Islands on transport Aug. 5, 1911.

Wales, Philip G., major, retired from active service.

Michie, Henry C., first lieut., ordered to Fort Missoula, Mont.

Priest, Howard, M.R.C., granted leave of absence for three months, effective Sept. 2, 1911.

de Quevedo, Louis G., M.R.C., granted leave of absence for two months.

Grubbs, Robert B., major, one month extension of leave of absence granted.

Christie, Arthur C., captain, leave of absence for three months and twenty-seven days granted, effective September 6.

Lewis, William F., major, on his arrival at San Francisco, will proceed to the Presidio of Monterey for duty.

Palmer, Fred W., captain, on expiration of leave, from Seattle to Fort George Wright, Washington.

Whaley, Arthur M., captain, on arrival at Seattle, Wash., will proceed to Fort Monroe, Va., for duty

Fetterolf, Daniel W., M.R.C., is ordered to active duty and to report to Surgeon-General for temporary duty; then proceed to Medical Supply Depot, New York City, for duty.

Stephenson, William, lieut. col., ordered to Mt. Gretna, as inspector and instructor, Pennsylvania Militia, Sanitary Troops, from July 22-29, 1911.

Hess, Louis T., major, ordered to Indiana, Indiana County, as inspector and instructor, Pennsylvania Militia, Sanitary Troops, July 22-29, 1911.

Williams, A. W., captain, ordered to Sellsgrove, Pa., as inspector and instructor, Pennsylvania Militia, Sanitary Troops, July 22 to 29, 1911.

Clarke, Howard, and Robinson, James L., lieuts., left San Antonio, Texas, with Eighteenth Infantry, en route to Fort Mackenzie, Wyo.

Ford, Harry G., lieut., left Outpost Camp, Cal., en route to station, Presidio of Monterey, Cal.

Mitchell, Leopold, M.R.C., left Washington Barracks, D. C., for temporary duty at Fort Foote, Md.

Harris, H. S. T., lieut. col., assumed duties as assistant to Chief Surgeon, Western Division, San Francisco; relieved from duty as Medical Supply Officer, San Francisco, on July 11, 1911.

Gentry, Ernest R., lieut., left San Antonio, en route to Langtry, Texas, for temporary duty.

Whithan, J. D., lieut., reports for duty with Company L, Third Engineers, San Antonio, Texas.

Divins, George G., lieut., reported for duty with Field Hospital No. 1 and Ambulance Company No. 1, San Antonio, Texas.

Ferenbaugh, Thomas L., lieut., left Fort Sam Houston, en route to Langtry, Texas, for temporary duty.

Flynn, Thomas J., lieut., left Camp Eagle Pass, Texas, with troops, en route to Fort Omaha, Neb., thence to Fort Snelling, Minn., for duty.

Creighton, Samuel S., lieut., reported for duty with Field Hospital No. 3 and Ambulance Company No. 3, San Antonio, Texas.

French, S. W., lieut., left San Antonio, Texas, for duty at Fort Hancock, N. J.

Wolven, F. Homer, dental surgeon, reports for temporary duty at Fort Egbert, Alaska.

Robinson, James L., lieut., left San Antonio, Texas, with Eighteenth Infantry, en route to Fort Mackenzie, Wyo., thence to Fort Wayne, Mich., for duty.

Hartsock, F. M., major, left San Antonio, Texas, en route to station, Fort Wayne, Mich.

Hallett, H. J., lieut., left Fort Sam Houston, Texas, en route to Fort Hamilton, N. Y.

Mills, Ray W., lieut., reported at Fort Sam Houston, Texas.

Reddy, John J., lieut., left San Antonio, Texas, with Eleventh Infantry, en route to Fort D. A. Russell, Wyo., thence to Fort Jay, N. Y., for duty.

Jones, Percy L., captain, left San Antonio, Texas, with Eleventh Infantry, en route to Fort D. A. Russell, Wyo.

Dutcher, G. H., major, left San Antonio, Texas, en route to station, Plattsburg Barracks, N. Y.

Register, E. C., lieut., left San Antonio, Texas, en route to Fort McPherson, Ga., for duty.

Eckels, Lauren S., lieut., left San Antonio, Texas, en route to Fort McKinley, Maine, for duty.

Gilchrist, H. L., major, left San Antonio, Texas, with Eleventh Infantry, to station at Fort Omaha, Neb.

Phillips, Hiram A., lieut., returned to Fort Andrews, Mass., from duty on transport *Sumner*.

Schreiner, E. R., major, left Calexico, Cal., with troops for duty at Sequoia National Park, Cal.

McKnight, J. R., lieut., left San Antonio, Texas, for duty at Walter Reed General Hospital, D. C.

Vose, William E., major, is assigned inspector and instructor Organized Militia at Vicksburg, Miss., July 18-27, then return to his station.

Coffen, Albion McD., M.R.C., will attend the sick at Jackson Barracks, La., during absence of Major Vose, Medical Corps.

Stephenson, William, lieut. col., will inspect the following posts: Fort Wood, Fort Hamilton, Fort Wadsworth, Fort Jay, Fort Totten, N. Y.; and Fort Hancock, N. J.; also office of Attending Surgeon, New York City, then he will return to station.

The following-named officers are assigned to duty as inspectors and instructors, Organized Militia, and will proceed to places named below, then return to stations:

Reno, William W., major, ordered to Augusta, Maine, August 7-16, detachment of the Hospital Corps.

Hopwood, Lucius L., captain, ordered to Glenn Allen, Va., Aug. 12-19, Sanitary Troops.

Reynolds, Charles A., major, ordered to Frederick, Md., August 18-27, Ambulance Company, District of Columbia.

The following-named officers are assigned to duty as inspectors and instructors of Organized Militia at Pine Camp, N. Y., Aug. 5-13, 1911:

McCaw, William D., major, of First Field Hospital.

Reynolds, Charles E., major, First Ambulance Company.

Wilson, James S., major, ordered to Fort Ethan Allen, Vt.; September 17-26, Hospital Corps.

Hartnett, Eugene H., major, ordered to New Castle, Del., July 22-29, Hospital Corps.

Arthur, William H., col., left Walter Reed General Hospital, D. C., on eight days' leave.

Straub, Paul F., major, reports being relieved from duty with Maneuver Division, and departure on thirty days' leave.

Clarke, Howard, lieut., reported for duty at Fort Crook, Neb.

Maddux, H. C., M.R.C., left San Antonio, Texas, en route to Fort Moultrie, S. C., for duty.

Medical Corps, U. S. Navy

Changes for the week ended July 29, 1911.

Stalnaker, P. R., passed assistant surgeon, ordered to Naval Hospital Las Animas, Colo.

Taylor, J. L., passed assistant surgeon, detached from the *Chester* and ordered to the Naval Hospital, Norfolk, Va., for duty.

Sanborn, C. F., acting assistant surgeon, appointed acting assistant surgeon from July 20, 1911.

Lanning, R. H., assistant surgeon, ordered to duty at the Naval Hospital, Navy Yard, Mare Island, Cal.

Nash, F. S., medical inspector, detached from duty at the Naval Recruiting Station, Philadelphia, Pa., and ordered to duty on the *Rhode Island*.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended July 26, 1911.

Cofer, L. E., assistant surgeon-general, directed to proceed to New York Quarantine Station, also to Boston, Mass., via Albany, N. Y., on special temporary duty.

Long, J. D., assistant surgeon-general, directed to proceed to Boston, Mass., on special temporary duty, and on completion of the duty to return to Jameston, R. I.

Stoner, G. W., surgeon, granted six days' leave of absence from July 12, 1911.

White, J. H., surgeon, granted four days' leave of absence from July 16, 1911, under paragraph 189, Service Regulations.

Young, G. B., surgeon, granted four months' leave of absence from July 5, 1911, with pay, and for the further period from Nov. 5, 1911, to June 30, 1912, without pay.

Oakley, J. H., surgeon, granted two days' leave of absence from July 19, 1911, under paragraph 191, Service Regulations.

Holt, John M., passed assistant surgeon, granted ten days' leave of absence from Aug 5, 1911.

McLaughlin, A. J., passed assistant surgeon, directed to proceed to Boston, Mass., on special temporary duty.

Stimson, A. M., passed assistant surgeon, directed to proceed to New York Quarantine Station on special temporary duty.

Creel, R. H., passed assistant surgeon, leave of absence for seventeen days from July 15, 1911, amended to read "four days from July 15, 1911"; directed to proceed to New York Quarantine on special temporary duty.

Hotchkiss, S. C., assistant surgeon, directed to pursue certain investigations in connection with duty on "mine rescue car."

Knight, C. P., assistant surgeon, granted fifteen days' leave of absence from Aug. 1, 1911.

Clegg, Moses T., assistant director, Leprosy Investigation Station, granted twenty-eight days' leave of absence from July 12, 1911, with pay, and two days' leave of absence, without pay.

Bailey, C. A., acting assistant surgeon, granted two days' leave of absence, June 24, and July 24, 1911.

Gillis, G. H., acting assistant surgeon, granted seven days' leave of absence from July 17, 1911, under paragraph 210, Service Regulations, granted eight days' leave of absence from July 24, 1911.

Houghton, M. W., acting assistant surgeon, granted ten days' leave of absence from July 15, 1911.

Safford, M. V., acting assistant surgeon, granted twelve days' leave of absence from July 24, 1911.

Weldon, W. A., acting assistant surgeon, granted thirty days' leave of absence from Aug. 1, 1911.

Maguire, E. S., pharmacist, granted twenty-seven days' leave of absence from Aug 5, 1911.

Carlton, C. G., pharmacist, granted twenty-nine days' leave of absence from Aug. 1, 1911.

Bierman, C. H., granted four days' extension of annual leave from July 5, 1911, on account of sickness.

Stump, F. A., pharmacist, granted thirty days' leave of absence from Sept. 1, 1911.

Medical Economics

WISCONSIN COUNTY SECRETARIES MEET

The second annual meeting of the Association of County Secretaries and State Officers of the State Medical Society of Wisconsin was held at Waukesha, June 6, 1911.

The president, Dr. T. J. Redelings of Marinette, in his address said in part: The slogan, "get together," has resulted in beautiful progress. A study of the reports of the bodies operating under the American Medical Association is most gratifying. All serious-minded men realize that medical education is not in a very satisfactory condition. There are altogether in this country 129 medical schools, half of which are doing reasonably acceptable work; the other half, owing to lack of financial support, equipment and qualified instructors, might better be discontinued. There is no justification to-day for a medical school as a financial investment.

The county secretary will do well to court the friendship and favor of young men in the community about to begin the study of medicine and give them correct information concerning the better schools and hold up before them high ideals in medical attainment.

The state university becomes the logical sponsor. The Wisconsin University Medical Department was tardy in its development, but when it came it was organized along right lines. The faculty is able, the laboratories adequately equipped and financial support is sufficient. I hope the day is not far distant when the university will send its medical men to the various counties of the state to demonstrate to medical societies new and better methods.

The professional spirit is growing. The county societies are growing in numerical strength and in the quality of the scientific work.

WHAT TO STRIVE FOR

A paper with this title, by Dr. Edward Evans of La Crosse, was read by the secretary. Dr. Evans said in part: The county society is the unit and center of the state and national organization, but the county secretary is the heart, the pulsing motor of the county society. In greater or less degree every one of his refractory flock is vaccinated with one or more of the seven deadly sins. How to inoculate with the opposite virtues is a task worthy of a Pasteur or an Ehrlich. We need organization *in* our profession to-day more even than organization *of* the profession. While medical men are notoriously hard units to unite, yet they need, as no other body needs, the benefit of cooperation. In our county societies we must preserve in their proper relations the social, the scientific and the business sides of the profession. Because of special qualifications, medical men are bound to promote and assist all movements for the general welfare. The county societies should often hold open meetings. Most attention should be paid to the scientific side of medicine, to new theories rather than old practices.

THE SCIENTIFIC SPIRIT IN THE COUNTY SOCIETY

A paper on this subject was presented by Dr. E. B. Brown of Beloit, who said in part: To have the scientific spirit means that a man recognizes the value of and is in sympathy with all study and experimentation that tends to make diagnosis more exact and treatment more specific and with all measures that tend to eliminate preventable diseases. The county society should be a source and inspiration of scientific spirit for the profession of each county.

The first requisite is getting the men together. To do this any procedure is justifiable which will accomplish the result. Having built up a society strong as to attendance, the matter of promoting the scientific spirit is not so hard. There are certain measures of especial importance: First, the program. The program committee should be appointed early. They will have time to find what men are interested in certain lines, what ones have special cases or original work to report. The program should be well balanced, with the scientific side not too prominent, yet the scientific atmosphere should prevail. Of especial value are the visits of some one from the larger medical centers who can bring the very latest in his line and present it in an authoritative and scientific manner. There should be encouragement of the members in attendance on the various larger medical gatherings and clinics.

THE BUSINESS SIDE OF PRACTICE

Dr. W. F. Zeirath, Sheboygan, speaking on this theme, said: The business side of medical practice should be methodically handled. Careful accounts should be kept and bills promptly rendered. A close scrutiny of "charity" accounts should be kept. In many of these cases the necessity for charity on the part of the physician will be found unnecessary. These same people, if they get into a lawsuit, will find the money to pay the lawyer. The same is true of other obligations. The physician should be careful in his investments, confining them to properties in his own community, instead of, as is largely the case, going into various mining, oil and land schemes hundreds of miles away.

PREVENTIVE MEDICINE

Dr. A. Egdahl, Menomonie, said: Preventive medicine is the medicine of the future. Members of the county society should be given opportunity to learn what is being done along these lines. There are several diseases that troubled us to a considerable extent years ago which are now of rare occurrence. Meetings should be held devoted to the consideration of preventive medicine, and papers along this line presented at every meeting, the expense to be borne by some organization interested in this work or by the medical society itself. Printed rules in relation to preventable disease should be furnished to patients. The various secretaries should call attention of the members to the valuable services rendered by the state hygienic laboratory at Madison regarding tests and microscopic examinations in tuberculosis, diphtheria, typhoid fever, rabies and other preventable diseases. The public is beginning to demand that physicians should know something about preventive medicine. Most of the work in preventive medicine can be done in infectious and contagious diseases. The prevention of venereal diseases is an important part of preventive medicine; also medical inspection in the schools in heading off a great number of preventable diseases in the start. We should try to create a great interest in the subject of preventive medicine in our medical societies.

Dr. H. W. Abraham, Appleton, said in the discussion: In one of the smaller towns of 17,000 or 18,000 people with two daily papers, when they are short of news, the reporters go around and interview the physicians of the city on just such subjects as have been mentioned here, usually on a disease prevalent at that time, such as for instance, typhoid fever, diphtheria, colds and occasionally there has been an article on the prevention of tuberculosis, method of ventilation, the value of fresh air and matters of that kind. These articles have been put in the reading columns of the paper. They are not written by the physician but by the reporter himself. They have had considerable influence on the public opinion of that town.

MEMBERSHIP AND ATTENDANCE

Dr. H. A. Jegi, Galesville, presented this paper. He said: One of the most distressing features of the profession is the undercurrent of disloyalty among its members, the desire to secure some advantage over others by methods that come under the term "questionable." Get the irregular man into the society, give him work to do, elect him to office and you may be surprised at the good work he will do. If he persists in the old ways, turn him over to the care of some other member. There are very few that cannot be reached. Though you may not be able to make a good ethical member of him, I believe he will harm the society and profession less as a member, and you may do him lots of good. The ideal man and physician will join of his own accord. The indifferent man is the most difficult of all to handle.

HOW CAN WE GET THE ATTENDANCE OF COUNTRY MEMBERS?

Dr. M. V. De Wire, Sharon, presented a paper on this subject, saying: Select the place of meeting with the idea of the convenience of reaching it by the greatest number. Arrange the time and number of the meetings to suit the majority of the members. Evening meetings might be practicable in the season of good roads. Invite the physicians to bring their wives and let the ladies visit while the men are discussing business and work. The printing and arrangement of the program can be made to wield an influence in securing attendance. In arranging the program it is best to take up live subjects for the principal part. Subjects of particular interest to members of certain localities will often bring out several members who are not in the habit of attending regularly. Encourage the members to report their difficult and unusual cases.

The scientific side should not be neglected. It is well from time to time to invite someone from the outside who is making investigations along special lines to address the meeting. The social features can be depended on to bring out a good attendance at at least one meeting of the year. Subjects of semi-public interest, such as anterior poliomyelitis, tuberculosis, the public drinking-cup evil, or the spread of disease by the common house-fly, or an illustrated lecture, will help to attract. The largest factor in the successful meeting is the personal element between the secretary and the individual member.

ONE WAY TO GET AND HOLD MEMBERS

Dr. R. H. Buckland, Green Lake, said: Two years ago our county society had twenty members and now has thirty. The territory in these three counties makes it a broadly scattered field with poor railroad connections. The president and the secretary both live at Green Lake and are both on the program committee, the third member being in a town nearby, making it convenient to confer frequently in regard to plans for the meeting. In an effort to secure members I had a little spare time last May, a year ago, and started out and traveled through the different towns and called at the office of the different doctors, some of whom were members and some not, and took the matter up with them and told them the advantages of being members of the county *society*, and the result of that *one trip* was the securing of seven new members. A personal canvass through the *county once* a year or once in two years will do much to *hold the membership*. The thing emphasized in speaking to the men who lived in the outskirts of the county was the medical defense feature. Our society has meetings every *two months* and the programs are short, one or two papers at the outside, followed by a full discussion. Once a year we hold a picnic at Green Lake and all the physicians in the territory and their wives and families are invited.

OFFICERS ELECTED

The following officers were elected: Dr. W. F. Zeirath, Sheboygan, president; Dr. M. V. De Wire, Sharon, vice-president; Dr. Rock Sleyster, Waupun, secretary.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

NEBRASKA: Lincoln, August 9. Sec., Dr. E. Arthur Carr, 141 S. 12th St.

IOWA: Capitol Building, Des Moines, September 19-21. Sec., Dr. Guilford H. Sumner.

MISSOURI: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

NEW YORK: September 26-29. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

Nebraska February and May Reports

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written and practical examinations held at Lincoln, Feb. 7-9 and May 23-25, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. At the examination held February 7-9, the total number of candidates examined was 6, of whom 4 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Ensworth Medical College	(1909)	75
Creighton Medical College	(1910)	85
Lincoln Medical College	(1910)	89.7
Western University, London, Ontario	(1899)	81.7
FAILED		
Ensworth Medical College	(1897)	67.5
Central Medical College, St. Joseph	(1899)	65

At the examination held May 23-25, the total number of candidates examined was 55, of whom 47 passed and 8 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Ensworth Medical College	(1911)	75.2, 76.2, 79.1, 81.1, 84.2
University Medical College, Kansas City	(1911)	76.6, 79.9
University of Nebraska	(1911)	81.2, 83.1, 83.2, 83.2, 84.4, 84.4, 84.7, 86.5, 92.2.
Creighton Medical College	(1910) (1911)	81.7; 75, 77.5, 77.6, 77.9, 78.4, 79, 79.5, 80.6, 80.8, 80.9, 81.2, 82.1, 82.6, 83.2, 83.4, 83.6, 84.9, 85.6, 86.4, 86.5, 86.6, 89.2, 89.5.
Lincoln Medical College	(1911)	75.2, 76.6, 77.4, 78.2, 80.1, 87.9
Medical College of Ohio	(1894)	83
FAILED		
Ensworth Medical College	(1911)	70.2, 71.9, 72.9
Creighton Medical College	(1911)	69.7, 72
Lincoln Medical College	(1911)	69.2, 71.7
Meharry Medical College	(1911)	69.7

Arizona April Report

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, April 3-4, 1911. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 8, of whom 6 passed and 2 failed. The following *colleges were represented:*

College	Year Grad.	Per Cent.
PASSED		
Rush Medical College	(1910)	89.8
Keokuk Med. Coll., Coll. of Phys and Surg	(1900)	75.3
University of Michigan, Dept. of Med. and Surg	(1903)	82.2
Washington University, St. Louis	(1903)	78.6
Beaumont Hospital Medical College	(1899)	77.1
Laval University, Quebec	(1908)	79.9
FAILED		
Hahnemann Med. Coll. and Hospital, Chicago	(1892)	66.2
Western Pennsylvania Medical College	(1890)	40.2

Nebraska Reciprocity Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports that at the meetings held since Jan. 1, 1911, twenty-two candidates have been licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Reciprocity with
University of Colorado	*(1910)*	*Colorado*
Hahnemann Medical College and Hospital, Chicago	(1901) (1902) (1907) (1909)	Illinois
Northwestern University Medical School	*(1905)*	Illinois
College of Physicians and Surgeons, Chicago	(1891) (1905) (1906)	Iowa; Illinois
Rush Medical College	(1898) (1908)	Iowa; Wisconsin
[illegible]	(1910)	Iowa
[illegible]	(1910)	Kansas
[illegible]	(1907)	Maryland
[illegible]	(1901)	Arkansas
[illegible]	(1899)	Minnesota
[illegible]	(1909)	Illinois
Medical College of Ohio	(1901)	Kentucky
Eclectic Medical College, Cincinnati	(1909)	Ohio
Memphis Hospital Medical College	(1899)	Indiana
University of the South	(1905)	Tennessee

Arkansas Homeopathic May Report

Dr. P. C. Williams, secretary of the Homeopathic State Medical Board of Arkansas, reports the written examination held at Little Rock, May 23-24, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Chicago Homeopathic Medical College	(1879)	75
Kansas City Hahnemann Med. Coll	(1911)	78, 79, 79, 84, 85
FAILED		
Kansas City Hahnemann Medical College	(1902)	68

Book Notices

THE WASSERMANN SERO-DIAGNOSIS OF SYPHILIS IN ITS APPLICATION TO PSYCHIATRY. By Dr. Felix Plaut, Scientific Assistant in the Psychiatric Clinic of the University of Munich. Authorized Translation by Smith Ely Jelliffe, M.D., Ph.D., Professor of Psychiatry, Fordham University, New York, and Louis Casamajor, A.M., M.D., Assistant New York Neurological Institute. Nervous and Mental Disease Monograph Series No. 5. Paper. Pp. 188. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

Felix Plaut's oft-quoted monograph has at last been put into English. Though the translation is too literal, one feels grateful that it has been done at all. This important contribution and the conclusions derived therefrom, carried out in Wassermann's laboratory by a conscientious worker, should have great weight with us in arriving at a correct estimate of the value of this biologic test. Plaut's conclusions are practically those of other workers in the same field.

On account of their importance, we abstract a few of his summaries. In respect to the value of the Wassermann test in the diagnosis of syphilis, Plaut says that the positive reaction is an expression of the general luetic infection, and in consequence individuals reacting positively to this test are not free from syphilis. The reverse is by no means true, as persons in the latent tertiary stage may react negatively, and yet not be free from syphilis.

Concerning general paresis, Plaut has found that the serum in this disease, with but few unimportant exceptions, gives a positive reaction, and that, therefore, a negative serum reaction speaks against paresis. The latter disease appears to occupy a unique position among the varied clinical forms of syphilis and parasyphilis, in that the negative reaction is of greater value than the positive one, because the last also occurs in syphilis and is valueless for differential diagnosis between it and general paresis.

In the case of a positive serum reaction, Plaut usually resorts to lumbar puncture, in order to ascertain the biologic and cytologic qualities of the cerebrospinal fluid. Rarely, he states, has he seen a negative reaction of the spinal fluid in paresis. He even goes further and maintains that in the absence of tabes symptoms the positive reaction of the spinal fluid, even if found in an apparently healthy individual, means the oncoming of general paresis later.

Plaut's discussion of feeble-mindedness in relation to a hereditary syphilitic etiology is extremely interesting, and brings out many new points of view. His assertions are based on a number of cases which he quotes either in abstract or in tabulated form. The monograph concludes with a table of the important literature bearing on this subject. While criticizing the faulty English translation of an excellent German monograph, we nevertheless heartily commend it to those unable to read the original.

WHAT TO EAT AND WHY. By G. Carroll Smith, M.D., Boston, Mass. Cloth. Price, $2.50 net. Pp. 310. Philadelphia: W. B. Saunders Co., 1911.

This book is readable, though its literary quality might be improved. Its contents, however, will be found useful by those who wish to apply dietetics to the treatment of disease. Very little is said about the chemistry of foods. The author endeavors to explain the principles underlying the use of foods and the essential reasons why a change of diet in certain diseases is desirable. Only the most important diseases, however, are discussed.

Chittenden's experiments, which have led him to fix on an unusually small quantity of proteid as the best standard for man, have interested students of dietetics chiefly during the last few years. Our author explains these experiments but does not adopt the standard unqualifiedly either for the healthy or the diseased. For the latter, he says, "it is an every-day experience that the protein must occasionally be reduced even below Chittenden's and often raised above Voit's standard."

The judgment of the author is good; therefore his conclusions are trustworthy. He takes pains to explain why a person's diet must be varied under differing conditions of disease. The work is a commendable one.

THE EXPERIMENTAL CHEMOTHERAPY OF SPIRILLOSES (SYPHILIS, RELAPSING FEVER, SPIRILLOSIS OF FOWLS, FRAMBESIA). By Paul Ehrlich and S. Hata. With Contributions by H. J. Nichols, New York: J. Iversen, St. Petersburg; Bitter, Cairo; and Dreyer, Cairo. Translated by A. Newbold, and Revised by Robert W. Felkin, M.D., F.R.S.E., Late Lecturer on Tropical Diseases, Edinburgh Medical School. Cloth. Price, $4. Pp. 181, with illustrations. New York: Rebman Co.

This small book is an authoritative statement of the work leading to the introduction of salvarsan. The largest part of it is by Hata on the experimental basis of the chemotherapy of spirilla. There is a brief report of the action of salvarsan on the *Spirochæta pertenuis* in the animal body by Nichols, one on patients with relapsing fever treated with the drug in the Cairo Infectious Hospital by Bitter and Dreyer, and the work concludes with a fairly comprehensive survey of the general subject by Ehrlich. It goes without saying that it is a highly interesting narrative. Hata's statement in particular of the preliminary chemical work and of the principles followed in it holds one as an account of one of the most original investigations of modern therapeutic chemistry. Ehrlich in his "concluding remarks" traverses in part the same ground and shows the steps by which he gradually came to 606 and decided on its therapeutic value. He makes a strong plea for the originality of the work and the essential differences of the derivative salvarsan from the original atoxyl. The tone of Ehrlich's contribution is distinctly on the defensive.

Of course this volume is entitled to the highest consideration as an authoritative statement on the most active subject in medicine and is worthy of careful reading.

THE TREATMENT OF SYPHILIS WITH SALVARSAN. By Dr. Wilhelm Wechselmann, of Berlin, Medical Director of the Skin and Venereal Disease Section, Rudolph Virchow Hospital, Berlin. With an Introduction by Dr. Paul Ehrlich, of Frankfort-on-Main, Director of the Royal Institute for Experimental Therapeutics, Frankfort. Only Authorized Translation by Abr. L. Wolbarst, M.D., of New York, Consulting Genito-Urinary Surgeon, Central Islip State Hospital. Cloth. Price, $5. Pp. 175, with illustrations. New York: Rebman Co., (1911).

This is a companion volume to Ehrlich and Hata's "Chemotherapy." In it Wechselmann considers salvarsan very fully from the clinical standpoint. His personal experience in over 1,400 cases, the clinical experience of various other experimenters, the technic of administration, repetition of the dose, effects on the Wassermann reaction, by-effects and accidents—most of the aspects of the subject, in short, are elaborately set forth. The volume is a valuable statement of the earlier experience with this new and startling remedy, although, of course, the statement is already old, so fast does the subject travel these days. As an ending of the volume there are appropriately given a group of sixteen fine colored illustrations, showing the effects of salvarsan on various syphilides. These illustrations are perfect, and show well the effects of salvarsan on syphilis, although no better or more rapid results are shown than are usual from mercury in similar lesions.

HEALTH HINTS AND HEALTH TALKS. By E. R. Pritchard, Secretary of the Chicago Department of Health. Cloth. Price, 50 cents net. Pp. 153. Chicago: The Reilly & Britton Co.

This little book contains the suggestions made to the public as a part of the educational and publicity work of the Chicago Department of Health. The subjects covered are various and are all intimately related to the comfort and health of the people. The hints are in the form of short, terse, epigrammatic paragraphs, each on a separate subject and intended to clinch in the mind of the lay reader the value of good health for himself and family. The book is admirably adapted to the instruction of the public, while the short paragraphs lend themselves readily to use in health bulletins and other mediums.

VICIOUS CIRCLES IN DISEASE. By Jamieson B. Hurry, M.A., M.D. (Cantab.). Cloth. Price, $2 net. Pp. 186, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The subject of this monograph is interesting and important. Every practitioner appreciates the significance of vicious circles but few know how common they are and the revelations of this book will surprise many. Each of the two hundred odd circles is described in a separate paragraph, which makes the work somewhat less easily read than if it were written more consecutively. It contains many illustrations which graphically depict vicious circles.

Medicolegal

Constitutionality of Medical Practice Acts—Chiropractic a Practice of Medicine

(State vs. Johnson (Kan.), 114 Pac. 390)

The Supreme Court of Kansas holds that chiropractic treatment is a practice of medicine under the statute of that state. The first count of the information charged that the defendant "Did then and there unlawfully and wilfully practice medicine and surgery . . . by then and there attempting to treat for a fee one William Mershon, Sr., who was then and there afflicted with bodily infirmities, and who was then and there sick, the nature and extent of said sickness and bodily infirmities being to informant unknown, by then and there pretending to adjust the vertebræ of the said William Mershon, Sr." The sixth count charged him with advertising in a newspaper: "Chiropractic. P. W. Johnson, D.C., the Chiropractor of Hutchinson, Kan., will be in Stafford at Hotel Brinham, Tuesday and Friday, 9 a. m. to 1 p. m. If you are afflicted in any way, or have tried everything else without results, try chiropractic spinal adjustment." These were the only counts considered by the Supreme Court.

The trial court sustained a motion to quash the information: "For the reason that it is agreed by both sides that said P. W. Johnson is a chiropractic and practicing his profession as such and is a graduate of some school which teaches chiropractic and stands ready to take an examination in chiropractic before the state board of medical registration, but that the statutes of the state make no provision for granting license to one practicing chiropractic, and has applied to take such examinations before said board, but it has refused to examine him or grant him a license to practice in Kansas." But the Supreme Court holds that the first and sixth counts were erroneously quashed.

The Supreme Court says that it has no doubt whatever that the legislature may prescribe reasonable restrictions and qualifications touching the healing art in any of its departments without impairing any constitutional rights. While power does not exist to give one particular school of medicine a monopoly or to prohibit the citizen from using or employing the ordinary home remedies and neighborly administrations, still, when one holds himself out to the public as a healer of disease by the use of means or methods vouched for by him and for which he receives pay, the legislature may, for the protection of the citizen from quackery or imposture, require such person to possess and show certain qualifications for doing properly what he does and what he receives pay for doing.

Webster's New International Dictionary defines "chiropractic" as: "A system of healing that treats disease by manipulation of the spinal column." And the court was advised by counsel for the defendant that "the chiropractor claims that all the diseases which are in any way affected by his adjustments are caused by the partial displacement of the vertebræ, thus causing the nerves which pass through the openings in the vertebræ to press against the sides of the openings and prevent the life fluid from flowing freely through the nerve to the part of the human system to which the particular nerve reaches. Diseases not caused by the pressing of the nerves against the sides of these openings the chiropractor does not in any way treat. The chiropractor claims that the only treatment so called which he uses is not a treatment, but merely an adjustment of the vertebræ which restores the vertebræ and the nerves to their normal position, and thus removes the cause of the disease. He does not practice surgery or medicine and does not use any other manipulations whatever than the adjustment of the vertebræ." But the language of the 1908 amendment of the Kansas statute, which is an act to "regulate the practice of medicine, surgery and osteopathy," is very broad, and even under the foregoing description of chiropractic it may well be said that one whose vertebræ are partially displaced, causing impairment of nerve function, is one afflicted with bodily infirmity, and that one who restores the functional activity of the nerve on which the maladjusted vertebræ had formerly pressed is treating, or attempting to treat, such afflicted person.

It may be argued that, giving the entire language a close, critical and discriminating meaning and construction, this method of so-called "treatment" is in no sense the product of medicine or surgery, and would, indeed, come more nearly under the term "osteopathy." But the manifest object and intent of the legislature was to protect the public from ignorance and imposition in the healing art. Osteopathy is carved out as a separate department, and registration and license are required, while its practitioners are prohibited from giving medicine and performing surgical operations; that is, from practicing medicine and surgery as distinguished from osteopathy. But "medicine and surgery," which the defendant was charged with attempting to practice, by common use and adjudged meaning, cover a wide portion of the domain of healing, and may and should be held to cover the case of one who, not claiming to be a physician or surgeon, really practices osteopathy under another guise without possessing the qualifications required of the osteopath.

The legislature has by the statute referred to treated osteopathy as a separate department and covered all the other branches of the healing art by the term "medicine and surgery." As new schools of practice come into favor, their followers must possess the requirements for the practice of medicine or surgery, or prevail on the legislature to make separate provision for them as it has done for the osteopath.

Violation of Medical Practice Act by Masseur

(Newman vs State (Tex. Cr. App.), 134 S. W. R. 688)

The Court of Criminal Appeals of Texas affirms here a conviction of the appellant (defendant) Newman of the offense of unlawfully engaging in the practice of medicine without first having registered and filed for record the certificate required, his punishment having been assessed at a fine of $100 and five days' imprisonment in the county jail.

It was contended that one who practiced as a "masseur" is not guilty of any offense under the Texas statute, and that the facts were insufficient to sustain the judgment; but whether or not the facts were insufficient was submitted to the jury trying the cause under a proper charge, and the jury found against the contention. The appellant's defense was fairly submitted to the jury in these instructions, given at his request: (1) "If you find from the evidence that the defendant did not charge for his services as a masseur, or for treatment by any method or system, and receive pay for such treatment between the 27th day of May, 1909, and the 21st day of June, 1909, you will acquit him, and say by your verdict, 'We, the jury, find the defendant not guilty.'" (2) "You are instructed that a masseur, in his particular sphere of labor, is not required to secure a certificate authorizing him to practice medicine, and if you believe from the evidence that the defendant, as a masseur, practiced within the particular sphere of masseurs, you will acquit him." One witness testified that she was treated by the defendant for "floating kidney," prior to May 27, fifty-two days for $50, going to his office for treatment. Another witness testified that she went to the defendant's office and was treated by him between May 27 and June 21. He did not charge for his services during that time, but she gave him $10. He charged her for services prior to May 27. The defendant ran this advertisement in a local paper: "Come and take masseur treatment, and learn to live without drugs." Under the construction of the medical practice act by this court in Newman vs. State, 124 S. W. 956 (The Journal, June 4, 1910, p. 1900), these acts constituted a violation of the law.

The statute provides that: "Any person shall be regarded as practicing medicine who shall treat or offer to treat any disease, or disorder, mental or physical, or any physical deformity, or injury by any system or method, or to effect cures thereof, and charge therefor, directly or indirectly, money or other compensation." If the jury hearing the testimony arrive at the conclusion that the defendant was treating and offering to treat disease by some method, and charged therefor, directly or indirectly, this court cannot say that there was no testimony to support their finding

Coroner's Physician Not Justified in Dissecting Body and Keeping a Part Merely Because an "Interesting Case"

(*Hassard vs. Lehane (N. Y.), 128 N. Y. S. 161*)

The First Appellate Division of the Supreme Court of New York reverses a judgment of non-suit and grants a new trial in this case, which was brought by a mother to recover damages for an alleged wrongful and unlawful dissection of the remains of her son and detention of parts of the remains. The deceased was a coach driver of the age of 28 years, who lived with his mother, and was thrown from his coach by an obstruction in the street, and died within a few hours after being taken to a hospital. The defendant was a coroner's physician, who did not claim to have been directed by a coroner to hold an autopsy, but merely asserted that it was "his privilege to make the dissection," explaining, when inquired of by the coroner, that the deceased had a greatly enlarged spleen, and it was *an interesting case*.

The plaintiff had a legal right, on the facts stipulated, the court says, to the possession of the corpse of her son in the condition it was at the instant of death for the purpose of preserving and burying the remains, and, without her consent, or statutory authority therefor, no one had a right to deprive her of such possession, or to dissect or otherwise mutilate the body of her son, and the law gave her a cause of action to recover damages, which should be measured by the injury to her feelings, caused by the invasion or violation of this right. The statutory provisions which the defendant contended, on acount of his being coroner's physician, authorized and justified his acts conferred no authority on him to dissect the remains in the absence of a direction by the coroner, which was not shown to have been given; and, even if the autopsy had been authorized by the coroner, that did not, on the facts presented, justify the removal and detention of any of the organs of the deceased.

Doubtless, if the defendant made the autopsy by the direction of the coroner, that would justify the dissection of the body, but it would not, in the absence of further directions from the coroner or district attorney, or other evidence, warrant the removal or detention of any part of the body.

Society Proceedings

COMING MEETINGS

Colorado State Medical Society, Steamboat Springs, Aug. 15-17.

AMERICAN CLIMATOLOGICAL SOCIETY

Twenty-Eighth Annual Meeting, held at Montreal, Canada, June 13-14, 1911

The President, DR. JOHN W. BRANNAN, New York, in the Chair

Officers

The officers elected for the ensuing year were named in THE JOURNAL, July 1, page 34.

The Relation of Forest Growth to Neighboring Water-Courses

DR. JOHN W. BRANNAN, New York: It was formerly supposed that extensive cutting of forests had increased the frequency and height of floods and had intensified the periods of drought. We are now informed that there is no statistical evidence to prove that this is true. I have made some study of the documents and arguments offered by the two parties to the controversy and find that it is a situation in which, indeed, "experience is fallacious and judgment difficult." Engineers and meteorologists assert that the figures presented by foresters as to the bad effects of deforestation are misleading, and in support of their statement offer other observations made on the same rivers at the same stations to prove that floods are neither more frequent nor more severe than in former times. As there has been no change in the flow of rivers, deforestation could have no such injurious effects as have been attributed to it. Further, it was claimed that all deforested land which had been converted into agricultural land had been put to its best use, and that no land which is suitable for the production of food should be withheld for the growing of timber. There now seems to be a new light on the subject. The forest floor surely protects the springs and controls the surface flow of water better than ground that has been denuded, especially if the land is on a hill or mountain side. If the ground is fairly level and suited to agricultural purposes, and is under constant cultivation, the growing crops form not a bad substitute for the forest. One should not expect to reforest level or slightly rolling land which is now under cultivation. In the mountain ranges, on the other hand, and on steep hillsides the forests should be preserved, not only to insure a regular supply of water for great river systems, but also to prevent the danger of excessive erosion.

The Climatic and Hygienic Influences of Forest Growth

DR. JAMES M. ANDERS, Philadelphia: Forests influence climatic factors in various ways. They expose resistance to the free passage of wind currents and moderate the extremes of temperature. Prussian observers have shown that for ten years the greatest heat of the day in July is, on the average, nearly 6 degrees lower than outside. The air of the forest contains a somewhat higher standard of average humidity than that outside. The air is cooled by transpiration or the evaporation of water from the leaves, and the air below the covering formed by the forest leaves is kept cool in consequence of this absorption of the heat. The opinion that forests are natural equalizers of the temperature rests on exact scientific premises. The vegetable canopy prevents to a certain degree evaporation from the soil, forests forming a more or less perfect screen between the sky and the earth. Evaporation from the soil of forests is rather more than one-third as great as from the open soil. The effect of the forest in preventing evaporation becomes greater with increasing altitude. It is warrantable to draw the *a priori* conclusion that when ever a fair proportion of woodland exists, properly distributed, a considerable influence must be exerted thereby on the hydrometeorology of the region. During the cold season forest vegetation, after a sponge-like fashion, holds considerable moisture in the soil; hence the earth in the vicinity of a forest is more humid than elsewhere in the winter. It is not too much to claim that forests are natural equalizers of both temperature and atmospheric humidity. Ozone is generated by odorous foliage and all of the flowering species. The exhalations from the conifera are particularly energtic in the promotion of ozone. Ozone through its power to combine chemically with pernicious organic impurities probably constitutes Nature's principal means of purifying our atmosphere. The sanitary influences of forest growth are principally dependent on the two physiologic functions—transpiration and ozonification, but these do not extend to any extent beyond the borders of the woodland. The advantages of forests, particularly pine forests, for the consumptive, should be conceded. There are no facts to oppose the practice of sending patients with laryngeal tuberculosis to the pine forests. Here they can obtain the superior benefits arising from a highly ozonized and terebinthinated atmosphere. In view of the facts brought out, there can no longer be any question as to the sanitary importance to the municipality of public squares, provided they are filled with appropriate growing vegetations.

DISCUSSION

PROFESSOR STUPART, Toronto: Some years ago I undertook an investigation of the rainfall occurring along the Great Lakes of North America and in other places. From the figures obtained it seems that the rainfall to-day does not equal that of earlier days, 1840. With regard to the temperature in Toronto since 1840, it is evident that it has increased but slightly; the spring months are not quite as cold as in the earlier year. As to the winter temperatures, it has been shown that the ideas of the old inhabitants were erroneous. The daily range of the temperature to-day is probably the same as it was seventy years ago. The figures given for Montreal go back to 1873. In the "sixties" the rainfall was 38 inches, and during the next ten years 39.2; and from then on it averaged 41.4, 41.7, etc. As far as the meteorologic records are concerned, it seems that in Canada the operations of man have had but little effect on the climate of the country.

I cannot account for the greater liability to summer frosts in the earlier days in Canada. Floods in Canada are no more disastrous than they were during earlier years.

Dr. J. H. Elliott, Toronto: The theory of Dr. Anders that forests modify the temperature seems to be borne out by the facts presented by Professor Stupart. In Ontario the heat during the summer months is slightly greater and the cold less than a few years ago; the very slight difference cannot be accounted for by the influence of any vegetation on the temperature.

Dr. Charles L. Minor, Asheville, N. C.: If the mountains of North Carolina were stripped of their forests they would be practically useless for other purposes. It is not a question of how deforestation affects the rainfall, but a question as to whether deforestation is harmful to the flow of water into the rivers and the water-supply in low-lying countries.

Dr. William H. Bertold, Denver: The question of deforestation has many interesting features. Certain reserves in the West permit cattle grazing. The cattle thrive better than on the plains. When the timber is removed there is a denudation of undergrowth as well.

Dr. Alexander D. Blackadder, Montreal: The value of any health resort should be estimated both by the amount of sunlight and of shade. One cannot say that the presence of many trees is not conducive to health; however, where timber predominates and where sunlight seldom enters, noxious influences are at work. The aim should be to cluster well-kept trees: this permits a large amount of sunlight and at the same time gives the stimulating effect of the ozone.

Dr. A. J. Richer, Ste. Agatha des Monts, Quebec: Consumptives are living in lumber camps in extreme comfort even with the temperature 40 F. below zero. They have none of the advantages of real household living. They live in a primitive way and the degree of comfort derived by them from their primitive life appears marvelous. There seems to be some vitalizing influence. It seems that the digestive functions are influenced by this way of living.

Dr. James M. Taylor, Philadelphia: We have not as yet enough knowledge in respect to the conditions that existed in the ancient countries where the forests have ceased to exist. We should take into consideration the conditions that exist in Greece, Mexico and the valley of the Euphrates. This subject is closely bound up with anthropology.

Dr. Robert C. Paterson, Ste. Agatha des Monts, Quebec: We should decide what changes take place in the soil when the trees are removed; when this occur the hills are washed bare of all soil and only rock is left, which does not have the power to absorb moisture. This must have some influence.

Dr. James M. Anders, Philadelphia: Stations should be located in various places beyond the borders of the forests. There is no doubt but that forests possess certain influences in reference to temperature and relative humidity, but I do not know how far beyond the borders of the forest this influence extends. As to whether observations in reference to ozone may be conclusive or not, I cannot say that the position taken is tenable. I have followed the usual recognized tests. The results were uniform; certain species of plants seem to possess the power of producing ozone, even the non-odorous plants. I think the balance of testimony is in favor of the flowering and odorous plants producing ozone.

Two Causes of Death in Pulmonary Tuberculosis

Dr. Lawrason Brown, Saranac Lake: Death in chronic tuberculosis is brought about most often through pathologic changes in the lungs, less often by those occurring in the heart and brain. This study of the causes of death in chronic pulmonary tuberculosis is based on data obtained from the records of death of 1,204 patients who died at or after leaving the Adirondack Sanitarium, and from 378 deaths which occurred in Saranac Lake Village. The data concerning 245 cases were not reliable, thus limiting the study to 959 deaths. While the usual cause of death was asthenia, the complications which terminated life were very numerous, and can be grouped under four heads: (1) general miliary tuberculosis: (2) pulmonary; (3) extra-pulmonary complications, and (4) sudden death. It is easy to arrange such a classification, but difficult to fit cases into it. In all, 332 patients, or 58 per cent., 163 males and 169 females, presented asthenia as the most marked symptom before death. Twenty-eight patients died from asthenia following hemoptysis. Immediate death from hemoyptysis occurred in eighty-two patients. Symptoms of enteritis occurred in 18; symptoms of nephritis were present in fourteen patients. Asphyxia was the most marked cause of death in twenty-one cases. In 385 cases pulmonary tuberculosis was stated as the only cause of death. Profuse sudden hemoptysis in the earlier stages of the disease was an unusual cause of death; when death occurred from this cause it was brought about more often by suffocation. Fatal hemoptyses were in practically every instance due to rupture of an aneurysm of one of the terminal branches of the pulmonary artery. Death from pneumothorax occurred in three cases. Gangrene as a cause of death was exceedingly rare. Death due to extra-pulmonary causes occurred in 111 cases. Syncope was given as the cause of death in thirty cases. Sudden death in pulmonary tuberculosis is unusual. Of forty-four deaths that had occurred among 3,300 patients during the residence at the Adirondack Cottage Sanatorium, thirty died with signs of pulmonary disease, eight of extra-pulmonary tuberculous complications and six of non-tuberculous disease. The figures that relate to the 378 patients who died at Saranac Lake from pulmonary tuberculosis show that 256 died from asthenia, four from asphyxia, fourteen from general miliary tuberculosis, forty-eight from hemoptysis, eight from pneumothorax, twenty-two from meningitis, ten from laryngitis.

DISCUSSION

Dr. H. R. M. Landis, Philadelphia: Some years ago, in studying seventy-five cases of death in pulmonary tuberculosis, I found that a majority died of general asphyxia, or a gradual wasting away, or because of a ceasing function. Three of the patients died from intestinal hemorrhage. It is amazing that so few patients died of complications of the intestinal tract. As far as my observations go asphyxia never occurs in tuberculosis. Out of 600 cases, not one patient died suddenly from heart failure; this is a rare form of death in this disease.

Dr. Gordon Wilson, Baltimore: I should like to call attention to the greater frequency of hemoptysis among females than among males; among 1,000 such patients there were 20 per cent. more females than males.

Dr. Charles L. Minor, Asheville: Dr. Brown has depended on reports from various doctors and this vitiates the value of the statistics. The term asphyxia I do not quite understand, unless it follows hemorrhage. I have never seen a patient asphyxiated because of calcareous glands, but I did see one with relatively small hemorrhages who died of asphyxia, and in this case the entire lung was involved with miliary tubercles.

Dr. Egbert Le Fevre, New York: The term asphyxia is not sufficient for classification as to the direct cause of death.

Dr. H. J. Elliott, Toronto: Pneumothorax is very frequently overlooked by the general practitioner. During the past year I have seen three cases in consultation and in none was the correct diagnosis made by the physician. In these cases asphyxia would probably be given as the cause of death.

Dr. John M. Swan, Watkins: I had one patient who died of asphyxia in pulmonary tuberculosis. The fatal termination began as an extensive plastic pleurisy.

The Class Method in the Treatment of Pulmonary Tuberculosis

Dr. Joseph H. Pratt, Boston: A tuberculosis class was started in the Massachusetts General Hospital in 1905. The homes were visited by nurses and once a week I saw all the patients under my care. Facilities for outdoor life are afforded. I have found it easy to control patients and to keep them in bed, if necessary. Absolute rest in bed is very important; I have found that when patients are given liberty to exercise, recovery is often retarded. During six years we have had 117 selected patients, sixty-four of whom have recovered. There were but three relapses. Two deaths occurred among the discharged patients, both in women who had become pregnant. The disease returned and ran a rapid course. Twenty-five patients admitted in the first stage of the disease recovered. Among those in the advanced stage of the disease, ten cases were arrested and eighteen patients died. It is hard to maintain supervision over these patients. I believe that the home treatment of these patients has advantages over the sanatorium treatment; if the patients get well at home they are more apt to remain well. The patients take a cold bath in the morning and drink from 1 to 2 quarts of milk daily.

DISCUSSION

Dr. H. R. M. Landis, Philadelphia: Dr. Pratt's work has interested me very much. A great deal depends on the woman in charge of the work; it is a mistake to place a woman in charge who has not been trained for this kind of work. Large classes cannot be handled well.

Dr. Charles L. Minor, Asheville: The most important feature of the class method is the broadening of the relation between the doctor and his patient. This is really the keynote of the success. The doctor should try to come into personal contact with the soul of his patient. It is not the body of the patient alone that is being treated, but the mind as well, and it is difficult to find a man who has the time to place his personality and energy into it.

The Economic Value of the Sanatorium Treatment of Pulmonary Tuberculosis

Dr. David Russell Lyman, Wallingford: The Gaylord Farm Sanatorium was opened September, 1904, and on May 11, 1911, they had 676 discharged patients who had been away from the institution for six months or longer. Thirty-four were school children and had no earning capacity. This left 633 cases on which my study is based. The results of treatment are in direct ratio with the stage of the disease at which the diagnosis is made. The incipient cases show an average total earning of $1,020.60, the moderately advanced of $842.22, while the far advanced earned an average of $192.10. The incipient cases showed a working capacity of 70 per cent. of their total time since discharge; the moderately advanced 59 per cent., and the far advanced only 23 per cent. The average weekly wages varied but little for the three classes. In another table dealing with 262 cases discharged as "arrested," 253 "improved," and 118 "progressive," the arrested show an average total earnings of $1,039.48; the improved $719.53; the progressive only $72.55. The percentage of "weeks of work" to "weeks of life" is 67 per cent. for the arrested, 47 per cent. for the improved, and 14 per cent. for the progressive. The total expenditure was $236,744.51, whereas the amount already earned by discharged patients was $464,406.00, a return of about 200 per cent. within six years from the commencement of the work.

The Relation of Tuberculosis to Chorea, Hyperthyroidism and Pharyngeal Hyperplasia

Dr. Charles Miner, Wilkes-Barre: At the State Tuberculosis Dispensary at Wilkes-Barre we have examined many children of tuberculous parents, and among them found conditions present which seem in some way related to the tuberculous infection. We found a large number with chorea, or with a history of having had choreic symptoms; again, among the older members of the families, we found a number with the signs and symptoms of hyperthyroidism; finally, we found a very large number with pharyngeal hyperplasia. The question naturally arises, what relation, if any, does the tuberculous infection bear to these conditions? The invasion of the tubercle bacillus is often a slow process, and the significance of tuberculosis in childhood is not limited to the disease itself, but, by lowering the tone and resistance of the child, it leads to the development of abnormal conditions and other infections. We cannot prove that chorea, hyperthyroidism and pharyngeal hyperplasia found in tuberculous children and young adults are caused by the tuberculous infection, but the knowledge of their frequent association may lead, through further investigation, to the discovery of some definite relation of tuberculosis to these conditions.

Studies of the Leukocytes in Pulmonary Tuberculosis

Dr. James A. Miller and Margaret A. Reed, New York: The study of the leukocytes gives reliable information in the prognosis and clinical course of pulmonary tuberculosis. In the diagnosis of incipient cases, it is of no assistance; but in the differential diagnosis of acute pulmonary lesions due to the tubercle bacilli or to some other infection, it is sometimes helpful. Arneth's differential neutrophil count is important in tuberculosis. In pneumonia, while the shift of the blood-picture occurs regularly, it has no constant relationship to the course of the disease.

In general, the following changes in the leukocytes occurred in cases of pulmonary tuberculosis which were progressively doing badly, or which were in an exacerbation of the disease: (a) a leukocytosis; (b) an increased percentage of neutrophils; (c) a diminished percentage of small lymphocytes; (d) a diminished percentage of eosinophils; (e) a marked shifting to the left of Arneth's blood-picture; conversely, changes in the opposite direction were favorable. In pneumonia our observations have made no material contribution to the knowledge of the behavior of the leukocytes.

Atypical Pneumonia

Dr. Jay Perkins, Providence, R. I.: Under this heading I include those cases of pneumonia the specific organism of which is not known. These pneumonias are seen in the aged, in alcoholics, as post-operative pneumonias, associated with typhoid, heart disease, nephritis, in the tuberculous, or in any condition in which the natural resistance of the body has been lessened, although it may occur in strong individuals as well as in the weakened ones. In atypical pneumonia, as compared with pneumococcus pneumonia, the fever lasts much longer, the termination is by lysis, or abscess formation, or chronic pneumonia, or other secondary pathologic conditions of the lungs, and there are complications not met with in pure pneumococcus pneumonia. In its onset a chill is not unusual, there is more likely to be a prodromal stage, the temperature is not so regular, usually not so high, herpes labialis is absent, the spleen is frequently enlarged, and the disease is more likely to be of epidemic form. No regular course of atypical pneumonia can be given because, as the name "atypical" indicates, there is no regular course. In time, however, I believe that improved methods of diagnosis may remove many of these cases from the category of atypical pneumonia.

Physical Exercise and Blood-Pressure

Dr. Edward O. Otis, Boston: My attention was first called to this subject while making a physical examination of members of a large men's gymnasium. The men were young or middle-aged and the majority of them were engaged in indoor sedentary occupations. It occurred to me that perhaps, by means of the systolic blood-pressure, taken at three periods, namely, just before, immediately after and then a little later, after a short rest or after the usual bath, I could thereby obtain some definite idea of the effect of the exercise in each individual case and thus have some practical guide as to the amount and severity of the work best suited to each person. I accordingly took the maximum blood-pressure at the three periods mentioned of fifty-nine men, six boys and thirty-two young women. In addition I took the blood-pressure of the first two periods, just before and immediately after exercise, of twenty-nine men making altogether rather over 350 separate measurements. After prolonged and severe exertion there is a diminution of blood-pressure from the normal at the conclusion of the effort. After a short period of mild or moderately severe exercise, as in class work, the blood-pressure taken immediately at the conclusion of the exercise shows, in the majority of the cases, a rise, followed quickly by a fall to or near the normal or to subnormal. In my 126 cases of moderate general exercise, ninety-seven, or 77 per cent., show a rise of blood-pressure immediately after the exercise. In nine, or 8.1 per cent., there is no difference between the first and second measurement; and in twenty cases, or 16 per cent., there is a fall in the second measurement. Physical exercise in the majority of cases, of whatever nature it may be, excessive, long and continued, or more gentle and moderate, causes a rise in the systolic blood-pressure, the maximum occurring sometime during the effort. As fatigue sets in and advances, the pressure falls to normal or subnormal. If immediately after exercise the blood-pressure is subnormal and remains so for some time, as in the case of the Marathon runners, and foot-ball players, then for that individual, or for his condition at the time of taking the exercise, I should consider it too strenuous or too prolonged.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting, held at Denver, June 19-21, 1911

(Continued from page 416)

The President, DR. RICHARD H. HARTE, in the Chair

The officers elected were named in THE JOURNAL, July 22, p. 302.

Suppuration in One-Half of a Horseshoe Kidney

DR. JAMES E. THOMPSON, Galveston, Texas: The case occurred in a female, aged 15, in whom symptoms of pyonephrosis were definite. Operation revealed the left side of a horseshoe kidney dilated and pyonephrotic. The isthmus was well marked. The right side was normal. Good recovery followed the removal of the affected half.

DISCUSSION

DR. WILLIAM J. MAYO, Rochester, Minn.: In a number of cases of horseshoe kidney observed by us, the symptoms were caused by anomalous blood-vessels. In the last year we have met with three cases of horseshoe kidney in which one-half was giving rise to trouble, but in only one case was the trouble sufficient to necessitate operation. The diagnosis, in other words, does not necessarily mean that the case is an operable one. I have in mind one case somewhat similar to that reported by Dr. Thompson. The patient, a girl of 16, had severe symptoms; had undergone various operations; she had few urinary symptoms, although there was a certain amount of pus in the urine. We found the ureter drawn tight and plainly visible, but the posterior ureter leading to the other half of the kidney was buried so completely that it was difficult to find the division between the two parts. This fact made the operation much more difficult that it would otherwise have been.

DR. GEORGE E. BREWER, New York City: A patient came into my service in a state of more or less chronic sepsis and with a discharging fistula, resulting from a pervious abscess in the lumbar region. He gave evidences of an infected kidney. The ureteral catheter was attempted and the cystoscope, but the presence of a very grave cystitis and a contracted bladder prevented any satisfactory employment of these measures. We operated and found a chronically infected kidney. The upper part of the kidney was distinctly destroyed, the lower part infected, but as we passed down toward the transverse portion it looked healthy. It took a good deal of time to dissect away the perirenal exudate to see that we had another ureter. Fortunately, the man made a very prompt recovery.

DR. KENNETH A. J. MACKENZIE, Portland, Ore.: A young woman complained of pelvic discomfort. I attempted an examination and found what I thought to be a tumor, very dense and unyielding. Operation was performed, no ureters were found, there was no vagina, and this tumor could be felt below the sacro-iliac synchondrosis in the pelvis. Above I found an ovary floating in the abdomen, and pulling it down, found it led to a Fallopian tube and a segment of the uterus. The tumor proved to be a tremendous ectopic horseshoe kidney. Huge vessels connected with it, and nothing could be done; there were some adhesions and I could not see where the vessels came from.

DR. M. L. HARRIS, Chicago: I wish to emphasize the necessity of conservatism in operating on horseshoe kidneys by calling attention to a case in my practice. Some six years ago I had a patient, a young woman, 30 years of age, who was operated on for a movable kidney; this proved to be a mistaken diagnosis, a horseshoe kidney being found. There were two ureters coming from the pelvis, and the pelvis was on the concave side of the kidney, and therefore dragged upward. The ureters were distinctly compressed, as they passed over the anterior surface of the kidney, and to this I attributed the existing dilatation of the pelvis. I attempted to free the ureters as they came from the kidney, and in order to do away with the sharp kinking or compression of the ureter I took the perirenal fat and tucked it under the ureters to give them a large curve, and while doing this succeeded in tearing one of the renal veins; this I closed by suture. I then closed the wound. The patient made a very good recovery and the attacks of pain ceased. About a year later she returned with distinct enlargement in the left side of the abdomen. Pus in the urine and tubercle bacilli were easily found. In view of the horseshoe kidney, the question of what to do was a serious problem. I cut down on the left side, found a distinct pyonephrosis of tuberculous origin, and removed the left half of the horseshoe kidney. The patient made a good recovery and is now in perfect health. If anything radical had been done at the first operation on the right side of the horseshoe kidney there would have been no hope for the patient when the tuberculosis developed in the other side.

Treatment of Fistula-in-Ano Without Mutilation of the Sphincters

DR. KENNETH A. J. MACKENZIE, Portland, Ore.: The method of treatment employed by me is the systematic extirpation in properly selected complex cases of the entire fistulous zone under the eye. For this purpose a trap-door flap is made on the side involved, beginning with a short crescentic incision through the skin and connective tissue just beyond the border of the external sphincter; division of the fistula flush at the point of escape from the rectal wall; the flap reflected and formed so as to include the fistula and all its branches; careful closure of the rectal gap within and without by suture; extirpation with knife and scissors under the eye from the flap of the entire fistulous tract, beginning at its main end, with resection, if necessary, of parts hopelessly riddled with sinuses; proper closure of flap. The fistula is now free and excluded from the bowel.

DISCUSSION

DR. THOMAS W. HUNTINGTON, San Francisco: I would like to warn against using the probe without first carefully dilating the sphincter. The finger is inserted into the rectum and the probe passed without previous dilatation of the sphincter; the probe approaches the finger-tip, but is separated from it by a very thin, almost tissue-paper-like covering of mucous membrane. Right here is where very serious blunders are often made, by the pushing of the end of the probe into the rectum by a new channel instead of discovering the original point of departure. Far better results will be obtained in cases in which the precaution is taken of first dilating the sphincter, as I have found in a large number of cases.

DR. CHARLES H. MAYO, Rochester, Minn.: The injection of collargol into these fistulous sinuses is of great advantage in locating the inner tract into the bowel. In deep fistulous tracts running past the internal sphincter, undoubtedly many of them connect with low diverticuli; very recently I have seen two such cases, and I believe them to be much more frequent than is thought.

Arteriovenous Anastomosis for Gangrene of the Leg

DRS. ALBERT E. HALSTEAD and ROGER T. VAUGHAN, Chicago: There is but one indication for the application of arteriovenous anastomosis in surgery; that is in traumatic destruction of a principal artery, where end-to-end union of the vessel is impossible. In such a case arteriovenous anastomosis might be attempted, and through it we might maintain a sufficient blood-supply to preserve the integrity until an adequate collateral circulation is established.

DISCUSSION

DR. HOWARD LILIENTHAL, New York City: There are certain cases of diabetic gangrene in which the arteries are not diseased where arteriovenous anastomosis will be found practicable. Where both arteries and veins are diseased it naturally does no good to anastomose one diseased vessel with another.

Dr. Fred B. Lund, Boston: I have had some experience with arteriovenous anastomosis and have never found it of value. I agree with Dr. Halstead that it has a very limited field of usefulness.

Dr. John B. Murphy, Chicago: I would call attention to the anastomoses that have been formed by bullet wounds and stab wounds again and again; I recall one case of anastomosis of the jugular vein with the carotid artery caused by a bullet. I closed the opening with suture and a perfect result followed.

Pyloroptosis; Gastric Atony as the Original Cause of Neurasthenia, and Its Cure

Drs. Archibald MacLaren and Louis E. Daugherty, St. Paul, Minn.: A series of skiagrams of the stomach were taken while the patients were standing to determine its size, position and motility. One picture showed the stomach hanging vertically down in the abdomen, hung from the esophageal opening, slightly curved to the right at the bottom, like a big letter J. We found that many stomachs were markedly prolapsed, but that their owners had a perfect digestion. A picture of a neurasthenic woman showed the stomach in the same position, but flaccid, baggy and flattened at the pylorus, showing marked lack of tone. This lack of tone is closely related to acute dilatation of the stomach, which in its worst form is so often fatal. Its subacute form is often unrecognized, and passes on into the chronic type, which we see in these atonic stomachs. Most of the patients had their appendix removed, but still had right-sided pain and tenderness. Many had discovered that the discomfort which came about one hour after eating could be relieved by lying down. This is a valuable point in differential diagnosis. When in the upright position the stomach, after preparing food, must lift it over the duodenal hill 5 inches; muscular power must be normal or the patient will be uncomfortable and commence to lose weight. We have seen the earliest signs of neurasthenia in atony of the stomach in young children. If an operation has to be done for physical or mechanical conditions, the patients should be kept in bed much longer than other patients and started on forced fat feeding. We conclude that the position of the stomach is not important; the pylorus is practically a pelvic organ; the principal function of the stomach is mechanical; the beginning or first symptom of the so-called neurasthenia is due to gastric atony; postural drainage and fat feeding, temporarily at least, cures these patients; operations on the stomach to change its position and help its drainage have still to be proved advisable, because no operation will take away the muscular atony, but will rather aggravate it.

Mr. Harold J. Stiles, Edinburgh, Scotland: I have always been able to obtain quite satisfactory results in these cases by doing a gastro-enterostomy with a good big opening, closing off the duodenum. By allowing the food to escape from the stomach more readily you will so improve the primary digestion and the nutrition of the patient that the neurasthenia will gradually disappear. My experience has been that there is a distinct tendency to improvement in constipation by doing a gastro-enterostomy and closing the duodenum.

Ulcer of the Stomach and Duodenum, with Special Reference to the End-Results

Dr. William J. Mayo, Rochester, Minn.: Of 1,000 cases in our series, 428 were classified as gastric and 572 as duodenal ulcer. Of 379 cases of gastric and duodenal ulcers operated on previous to June 1, 1906, 227 (59 per cent.) were classified as gastric and 152 (41 per cent.) as duodenal. Of 621 cases of gastric and duodenal ulcers operated on from June 1, 1906, to Jan. 17, 1911, 201 (32.5 per cent.) were gastric, 401 (64.5 per cent.) duodenal, and 19 (3 per cent.) had an ulcer of each viscus. That at least two out of three cases of ulcer will be found to have their origin in the duodenum rather than in the stomach is a conservative estimate. Of the 1,000 cases, 255 were women and 745 (practically three out of four) were men. The operative mortality in this series was 2.4 per cent. Three hundred and seventy-nine of these patients were operated on previous to June 1, 1906, before the operative technic had been well worked out, and the imperfections in methods were responsible for some failures to cure and an increased mortality. In studying the histories of the gastric ulcers we found that practically all situated close to the pylorus and accompanied by obstruction, were relieved by gastrojejunostomy, whether or not the ulcer was excised. However, whenever it was possible to do so, we excised the ulcer because of the liability to cancer degeneration. In a few cases very extensive ulceration of the body of the stomach precluded the employment of any operation on the stomach, and jejunostomy, with complete rest of the organ for some weeks, has been necessary. The results were good. It is very evident that operations for duodenal ulcers present a higher average of cures than operations for gastric ulcers. Gastrojejunostomy, with or without infolding the ulcer, not only affords a great relief to the patient with duodenal ulcer, but a permanent cure in a remarkably high percentage of cases.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting, held June 14, 1911

The President, Dr. C. B. Longenecker, in the Chair

The Blank Cartridge and Other Amusement Explosives in the Etiology of Tetanus

Dr. Samuel Wolfe: That the tetanus germ may be present on the skin, on the site of the wound, and that it may gain entrance at a later stage, are admissions we are justified in making. Whether it is ever carried in the missile itself is more difficult to determine, and while I believe its possibility is not remote, the great probability is that it is derived from elsewhere. While in the manufacture of gunpowder the ingredients may become contaminated, the chances are not greater than of contamination after the powder has left the manufacturers' hands. The wad used in the blank cartridge is not above suspicion of contamination, particularly if clay is used in its composition. Contused and lacerated wounds are favorable to the infection. In these we have a very large number of peripheral nerve endings exposed to irritation and to the tetanus toxin. The strict supervision of vaccine and surgical material makes the introduction of the germ in operations and vaccinations of little more than historical interest. The Fourth-of-July group represents the one class that may confidently be looked for so long as the present methods of celebration prevail. A study of the statistics indicates that the infection gains entrance to the wound at or very soon after the injury.

Treatment of Tetanus

Dr. J. Norman Henry: There is great difficulty in estimating the value of any treatment in this disease, because of the changing picture it frequently presents. I have treated four patients with intraspinal injections of magnesium sulphate with recovery in one case. I have noted a very much intensified and alarming action of the salt in successive doses, even when intervals of 36 or 48 hours occur between injections. Phenol (carbolic acid) in my hands has not been very successful though there is much evidence of its efficacy and it should always be used when antitetanic serum cannot be obtained, and may with propriety be used in conjunction with it. Amputation of fingers and toes is advised when the point of infection is there present. Otherwise, excision of the offending wound and cleansing with strong phenol solution is demanded. Prophylactic treatment is recommended but must not stop short at mere cleansing of the wound and antiseptic dressing. At least 1,500 units of antitetanic serum should be injected, if the wound be a suspicious one. The intracranial and intraspinal methods of injection of antitetanic serum do not appear to present particular advantages over the subcutaneous route. Large doses of antitetanic serum should be used as a routine measure as early in the case as possible. The use of the serum does not interdict other measures of treatment such as the administration of bromids and chloral, phenol and magnesium sulphate.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York State Journal of Medicine

July

1 *Blood Transfusion. Direct Method. T. L. Deavor, Syracuse, N. Y.
2 Deductions from Clinical Experience in the Use of a Polyvalent Bacterial Vaccine. J. M. VanCott, Brooklyn, N. Y.
3 Latest Statistics on Cancer in the United States and in New York. W. B. Chase, Brooklyn, N. Y.
4 *Malignant Tumors of the Kidney. H. Adsit, Buffalo, N. Y.
5 Cerebral Compression. E. R. McGuire, Buffalo, N. Y.
6 The Nervous Woman. E. B. Angell, Rochester, N. Y.
7 The Reporting of Gonorrhea as a Method of Preventing Gonorrheal Ophthalmia. L. Howe, Buffalo, N. Y.
8 A Case of Epidural Hemorrhage Complicating Epilepsy with Rupture of Posterior Branch of the Middle Meningeal Artery. Recovery. W. C. Cramp, New York.
9 Arteriosclerosis as a Factor in Mental Diseases. T. J. Currie, Willard, N. Y.
10 Exclusion of Ulcerated Areas in the Pyloric Region. R S Fowler, Brooklyn, N. Y.
11 The Wassermann Reaction and the Physician. W. J. Heimann, New York.
12 Anchoring the Caput Coli. R. S. Fowler, Brooklyn, N. Y.
13 Burns. C. Haase, Elmira, N. Y.

1. **Blood Transfusion.**—The direct method, which has been used in experimental work by Deavor, has given him most gratifying results. The donor and donee are placed in position side by side, the radial artery and basilic or other vein, respectively, being selected. The parts are cleansed and anesthetized with a 1 to 2 per cent. solution of cocain. Infants require only saline infiltration. Morphin is rarely necessary. The artery and the vein are then laid bare for 2 or 3 inches, cleared of all connective tissue, and their nearby branches and tributaries carefully ligated. Nerve filaments are to be avoided as far as possible. The vessels are then covered with hot saline sponges. No vaselin is needed. It is a foreign element of doubtful utility. The wrist of the giver is now brought so close to the arm of the receiver that the artery, when divided, will more than reach the vein. Small mouse-toothed forceps are applied to the vessels, two to the vein and one to the artery, in such a manner as respectively to serve as tractors in opening and closing the vein, and as a carrier to steady and transmit the artery. The incision in the vein should be longitudinal, preferably, and just large enough to easily receive the artery and admit of ready closure of the vein about it. The matter of closing the vein about the artery is easily done by a simple twist of the forceps, an embellishment which will occur to the operator at the proper time. The forceps should grip only the outer coat of the vessel. Not much assistance is called for. Up to this point very little time has been consumed, as the work of isolating the vessels is quickly done. One thing is absolutely important: the adventitia must be so thoroughly cleared away as to reduce the artery to a wire-like structure. This does not in any way alter its function. Everything is now ready. The clamps are applied, the artery severed, the vein opened, and while both vessels are bleeding freely, the artery is quickly carried into the vein for a half to three-quarters of an inch, and the vein closed around it. No special forceps are needed, but Deavor has found the short mouse-toothed clamp with lock to work splendidly. When a sufficient amount of blood has been transfused, the vessels are ligated and the wound closed. In every instance the artery will be found pulsating when it is withdrawn from the vein. This, with venous pulsation, are satisfactory proof that blood has entered the circulation of the patient. No vessels are clamped or adjusted to various cannulæ, or applied to intervening tubes or carried about with traction threads. In short, they are not disturbed in function until the moment of making anastomosis.

4. Abstracted in THE JOURNAL, May 20, 1911, p. 1506.

Quarterly Bulletin of Northwestern University Medical School, Chicago

June

14 Old Fractures of the Patella with Retraction. A. B. Eustace, Chicago.
15 Submucous Resection of the Nasal Septum. O. H. Maclay, Chicago.
16 Mixed Hypercytosis. J. F Hultgen, Chicago.
17 A System of Study in Pathology. H. Jackson, Chicago.
18 Pellagra. W. H. Buhlig, Chicago.

Southern Medical Journal, Nashville

July

19 The American Society of Tropical Medicine. W. S. Thayer, Baltimore.
20 *Certain Septicemias Resembling Yellow Fever. J. W. Amesse, Boulder, Colo.
21 A Probable Case of Sprue. S. K. Simon, New Orleans.
22 Prophylaxis of Malarial Infection. C. F. Craig, Washington, D. C.
23 *Is Pellagra a Disease Primarily of the Alimentary Tract? J. C. Johnson, Atlanta, Ga.
24 Etiology and Treatment of Pellagra. G. J. Winthrop and H. P. Cole, Mobile, Ala.
25 Chinese Medicine. A. S. Taylor, Yangchow, China.
26 Present Status of Uncinariasis in Alabama. W. W. Dinsmore, Montgomery, Ala.
27 Municipal Sanitation, Especially of Seaports. R. H. Von Ezdorf, Mobile, Ala.
28 Tropical Diseases and Health in the United States. J. M. Swan, Watkins, N. Y.
29 *Is the So-Called "Cotton Mill Anemia" of the Gulf-Atlantic States Due to Lint or to Uncinariasis? C. W. Stiles, U. S. P. H. and M.-H. Service.

20. **Septicemia Resembling Yellow Fever.**—Among the affections which Amesse says must be considered and eliminated before the diagnosis of yellow fever is justified, none are more baffling than the group of diseases included in the general term infectious jaundice or icterus gravis. Unquestionably, septicemic and usually hemorrhagic in character, of sudden onset and hidden origin, they resemble so closely the picture of the more severe invasions of yellow fever that one with difficulty maintains an unbiased attitude in their consideration. From this group Weil's disease is omitted, there being no question in Amesse's mind that in these latter cases we have to deal with an intoxication or an acute febrile icterus, rather than a specific infection. Of decidedly differing character, however, are the serious disorders involving the liver and gastro-intestinal tract, running a short, sharp course, and furnishing a death-rate varying from 25 to 60 per cent. Cases of this type have usually been reported from tropical and subtropical localities, the clinical features being practically identical, whether observed in the Eastern or Western hemispheres, and justifying the conclusion that identical etiologic factors are concerned.

23. Abstracted in THE JOURNAL, June 10, 1911, p. 1753.

29. **Cotton-Mill Anemia.**—The truth of this matter, according to Stiles, is that the widespread and severe southern "cotton-mill anemia" has nothing to do with working in the cotton mills, but is directly traceable to other factors, namely, it is uncinariasis, contracted in the majority of cases on the farms; it is due largely to the present insanitary conditions existing in the rural districts, and is brought to the mills by the people who come from the farms. Further, while some of the infection does actually spread in the mill villages, the amount of such village infection is far below the amount of infection obtained on the farm before the people came to the mills; further, also, the sanitary conditions in nearly all the mill settlements (poor though they be), are so vastly superior to the average conditions on the farms from which these people came, that, as a rule, the mill workers as a class (there are exceptions) do, and necessarily must, improve in health the longer they live in the mill villages. Stiles says that in order to understand the conditions in the southern cotton mills, it is necessary to keep constantly in mind the fundamental fact that the labor in these mills is recruited chiefly from the white people living on the soil-polluted farms or working as tenants or hired hands on some of the soil-polluted plantations.

Journal of Missouri State Medical Association, St. Louis

July

30 Tuberculosis. H. E. Pearse, Kansas City.
31 Cancer Investigation. L. Loeb, St. Louis.
32 The Significance of Abdominal Pain and the Maladministration of Opium. F. G. Nifong, Columbia.

California State Journal of Medicine, San Francisco

July

33 The Experimental Basis of Vaccine Therapy. F. P. Gay, Berkeley.
34 *A Clinical View of Vaccine Therapy. H. C. Moffitt, San Francisco.
35 *Surgical Significance of Papillo-Edema. L. W. Mansur, Los Angeles.
36 Diagnosis of Certain Intracranial Lesions. T. J. Orbison, Los Angeles.
37 Indications, Technic and Results in Decompressive Operations on the Brain. W. I. Terry, San Francisco.

38 Surgical Treatment of Sub-Tentorial Cysts and Tumors. A. S. Lobingier, Los Angeles.
39 *Functional Insufficiencies of the Myocardium. H. D. Power, San Francisco.
40 *Treatment of Hemoptysis in Tuberculosis. M. Rothschild, San Francisco.
41 *Hypodermic Use of Hexamethylenamin. F. F. Gundrum, Sacramento.
42 *A Remarkable Case of Chicken-Pox. E. Gray, Eldridge.

34. **Vaccine Therapy.**—In Moffitt's opinion the vaccines offer a very decided addition to our resources in the treatment of infections and their complications. There is a great need of more careful preparation of autogenous vaccines and of proper clinical supervision of dosage and frequency of administration. The indiscriminate use of stock preparations without proper determination of the nature of the infection is strongly condemned. Moffitt points out that one great danger of the multiplication of easily administered remedies supplied by drug houses lies in the neglect of careful diagnosis. Treatment with vaccines must supplement and not supplant well-recognized surgical procedures. In light of our present knowledge no one has a right to delay operation on an acute mastoid of pneumococcus origin with the hope that vaccines may cure the infection. The infected gall-bladder with cholelithiasis must be operated on, the appendix abscess opened, the empyema drained before much help can be expected from vaccines.

35. **Papillo-Edema.**—Mansur regards papillo-edema as one of the most common symptoms in increased intracranial tension, and unless this pressure is relieved before destructive changes occur the patient will become blind; hence the importance of an early recognition of this condition and an early operation for its relief. He emphasizes the significance of dyscromatopsia and the importance of a most careful examination in all the cases which we are inclined to call hysterical.

39. **Functional Insufficiencies of the Myocardium.**—It is pointed out by Power that there are a group of cases in which, without organic change, the heart is unable to functionate normally. While the symptoms may be the same, the underlying pathogenesis may be widely different and is susceptible to analysis into the classes enumerated in this paper. No correct prognosis can be made or rational treatment instituted until these pathogenic factors have been recognized and assigned their proper value. The need for correct treatment is imperative, for if the insufficiency is merely palliated and its causes are removed, perverted function will ultimately lead to organic changes.

40. **Hemoptysis in Tuberculosis.**—Rothschild recommends the treatment of hemoptysis in tuberculosis by the production of an artificial pneumothorax.

41. **Hexamethylenamin.**—The very slight irritation following the hypodermic use of hexamethylenamin has encouraged Gundrum to use it subcutaneously or intramuscularly whenever it is desirable to produce, if not an actively germicidal, an at least inhospitable medium for bacterial growth in any serous cavity, or the bile or urinary passages within a short space of time. He has found this to be particularly valuable if the patient is nauseated, comatose, or about to be operated on when the postanesthetic vomiting too frequently empties the stomach of any drug and often prevents medication by mouth for several hours. He says that the frequent, early and generous exhibition of hexamethylenamin, particularly in cerebrospinal cases is of exceeding value in the prevention of meningeal infection. It is not able to affect to any great extent a case of meningitis once established. It has seemed good practice at times when an early exhibition of hexamethylenamin is indicated, as a prophylactic measure, for example, in instances in which catheterization or other genito-urinary manipulation is necessary, and especially where meningeal, or possibly also joint infection is feared, to use the drug hypodermically until such time as the administration by mouth can be taken up.

42. **A Remarkable Case of Chicken-Pox.**—The case narrated by Gray was remarkable for the number and the character of the complications and for the way in which it ended. In one individual were united epilepsy, chorea, hypertropic astigmatism, fibroid phthisis, pleurisy (with just beginning effusion), chronic endocarditis, with vegetations and a beginning acute stage, varicella and acute granular meningitis, the latter being the cause of death.

Illinois Medical Journal Springfield

July

43 Vaccine Therapy. A. F. Stotts, Galesburg.
44 Uncinariasis. M. I. Kaplan, Port of Cairo.
45 Behavior, Symptoms and Diagnosis of Ovarian Tumors in Non-Pregnant and Pregnant. A. B. Keyes, Chicago.
46 Perforating Ulcer of the Stomach. H. F. Lewis, Chicago.
47 Relation of the Internal Carotids and Optic Commissure to the Hypophysis. O. H. Maclay, Chicago.
48 Limitations of Ophthalmic Practice Imposed by Constitutional Conditions. O. Tydings, Chicago.
49 Cholera Infantum. E. Wahl, Edwardsville.

Ohio State Medical Journal, Columbus

July

50 Behind the Office Doors. J. C. DaCosta, Philadelphia.
51 Intra-Ocular Irrigation After Cataract Extraction. C. Lukens, Toledo.
52 The Smith Operation for Cataract Based on Two Hundred and Seven Cases Operated On in the Clinic of Lieut.-Col. Henry Smith, Amritsar, India. A. Timberman, Columbus.
53 *Removal of Foreign Bodies from the Esophagus and Bronchus. C. F. Bowen, Columbus.
54 Etiology, Diagnosis and Treatment of Retrodeviations of the Uterus. C. W. Moots, Toledo.

53. **Removal of Foreign Bodies from Esophagus and Bronchus.**—In all cases in which a foreign body is either swallowed or inspired, Bowen says a radiograph should be made by a competent person before any attempt is made at its removal. This is especially important in cases of sharp bodies. If the foreign body is dense enough to be revealed on a plate, the diagnosis by this means is easy, but even in those cases in which a vegetable foreign substance is not opaque to the Roentgen-ray, a great deal of information can still be obtained. A grain of corn, for instance, lodged in the bronchus will not cast a shadow on a photographic plate, but its presence can usually be determined by the slight changes in the lung itself, caused by a localized pneumonia, or by a blocking up of certain air cells. The same is true of vegetable foreign bodies in the esophagus, for while the body itself cannot be seen, information especially as to its location can be obtained by giving the patient bismuth, either in the form of a capsule or in gruel, and watching the passage of the preparation down the esophagus with the fluoroscope. If a foreign body is present, the bismuth will be stopped or at least hesitate at the obstruction. The method to be employed in the removal of foreign bodies after their nature, size and position has been determined, must be carefully considered, and Bowen believes that the outcome of the case depends more on the proper selection of the method to be used, than on the actual instruments used or on the operator selected. He has had thirteen cases, in all of which the foreign body was removed without difficulty, and most of the cases required not more than two or three minutes for the actual removal of the foreign body. The one method which Bowen has used more than any other and the one which appeals to him most, is the removal of the foreign bodies with an ordinary pair of forceps, passed into the esophagus or into the bronchus through a tracheotomy wound, while the parts are being examined with a fluoroscopic screen. Bowen has removed tin whistles, coins, open safety-pins, tacks, needles, pins, etc., successfully.

Lancet-Clinic, Cincinnati

July 15

55 Extra-Uterine Pregnancy. W. R. Griess, Cincinnati.
56 Eclampsia Ten Days After Delivery. H. Buschman, Cincinnati.
57 Medical Advertiser. L. A. Clary, Elbing, Kan.

Journal of the Iowa State Medical Society, Clinton

July

58 *A New Principle Underlying the Interpretation of Clinical Phenomena of the Abdominal Viscera, with Special Reference to Emotional and Painful Indigestion. G. W. Crile, Cleveland.
59 Limitations of the Obstetric Forceps. W. L. Allen, Davenport.

58. **Emotional and Painful Indigestion.**—It is Crile's purpose to endeavor to explain the influence the emotions exert on the digestive tract and the explanation of the origin of painful indigestion. Fear, he believes, can be elicited only in animals that utilize a motor mechanism in defense against danger or escape from it. The emotion of fear is felt in

only those animals whose self-preservation is dependent on an uncertain adequacy of their power of muscular exertion either in defense or in flight. The function of the brain is wholly suspended except that which relates to the self-protective response to the object feared. Neither the brain nor any other organ can respond to any other lesser stimulus during the dominance of fear. Fear is a phylogenetic fight or flight. The present status of civilized man is now operated with the primary equipment of brutish organs. When he fears a business catastrophe it is in terms of his ancestral physical battle in his struggle for existence. He cannot fear intellectually, dispassionately. He fears with all his organs, and the same organs are stimulated and the same organs are inhibited as if instead of its being a battle of credit, of majority votes, it were a physical battle with teeth and claws. Whether the cause of fear is moral, financial, social or stage fright, the heart beats wildly, the respirations are accelerated, perspiration is increased, there is pallor, trembling, indigestion, dry mouth, etc. The phenomena are those of physical exertion in self defense. Any of the strong emotions, as fear, anger and sexual love, says Crile, drives the organs of the body into two classes, first, those organs that are useful in increasing the physical power of the body; all pulse organs are stimulated; second, those organs that can contribute nothing to the physical prowess; these organs are inhibited. This gives us at once a key to all the digestive and metabolic disturbances due to such emotions as fear, anger, sexual love, worry, grief, etc. Crile and Sloan exposed the cerebral hemispheres of dogs by removal of the skull and dura under ether anesthesia and under local anesthesia. Then various portions of the hemispheres were slowly but completely destroyed by rubbing with a piece of gauze. In some instances the hemispheres were destroyed by burning. In no instance was there more than a slight response of the centers governing circulation and respiration, and there was no morphologic change noted in a histologic study of the brain cells of the uninjured hemisphere. Clinically Crile has confirmed the experimental findings in the course of explorations for brain tumor with a probe in conscious patients. Such explorations elicited neither pain nor evidence of altered physiologic functions. The brain, therefore, contains no mechanism, the direct stimulation of which could cause a discharge of nervous energy in a self-defensive action. That is to say, direct injury of the brain can cause no purposeful nerve muscular action. In like manner, the deeper portions of the spinal region have been sheltered from trauma, and they too show but little power of causing a discharge of nervous energy or receiving trauma. The various tissues and organs of the body are differently endowed with injury receptors, or the noci-ceptors of Sherrington.

The Medical Fortnightly, St. Louis

July 10

60 Pathology of the Vermiform Appendix. W. L. Crosthwait, Holland, Texas.
61 Practical Value of Lip-Reading. M. A. Goldstein, St. Louis.
62 In the Twilight C. E. Warren, North Easton, Mass.

Boston Medical and Surgical Journal

July 13

63 Municipal Hospital Problems. C. A. Drew, Boston.
64 Practical Experience with My "Duodenal Tube." M. Gross, New York.
65 *Relation of Clean Streets to Tuberculosis. S. H. Stone, Boston.
66 *Treatment of Bone Tuberculosis at the Crawford Allen Hospital. R. Hammond, Providence, R. I.
67 A Case of Rectal Bilharzia. C. N. Meader, Boston.
68 Clinical Note on Pott's Disease. G. C. Moore, Boston.

65. **Clean Streets and Tuberculosis.**—It is emphasized by Stone that there are at least three conditions of street management for which those interested in the campaign against tuberculosis should strive. (1) The smooth-paving and regular cleaning of all streets, not by dry sweeping, but by flushing, or, if this is not possible, by sprinkling before sweeping. Exactly what can be done in winter, when flushing or sprinkling is not feasible, is a problem not yet fully worked out. (2) A minimum height of buildings and a maximum width of streets wherever possible, in order that those unequaled germ-destroyers, the sun's rays and fresh air, may have a chance to do their excellent work. (3) The immediate removal of all rubbish and garbage with the consequent lessening of danger from flies.

66 **Bone Tuberculosis.**—In addition to the outdoor life and the good food, Hammond emphasizes the sea-bathing as carried out systematically at the Crawford Allen Hospital as an important factor in the treatment of these cases. He regards it as a most valuable tonic, and as the children improve in health, apparatus can be dispensed with at an earlier date than was formerly supposed.

The Therapeutic Gazette, Detroit

July

69 Treatment of Spastic Paralysis. A. Lorenz, Vienna, Austria.
70 Blood Pressure and Pulse-Rate in Pneumonia. E. H. Goodman and R. L. Pitman, Detroit.
71 Cause and Surgical Treatment of Trifacial Neuralgia. T. Bina, Philadelphia
72 Typhoid Vaccines Prepared at Different Temperatures. W. S. Middleton, Philadelphia.

New York Medical Journal

July 15

73 Determination of the Cause of Death and Some Cases of Sudden Death. H. Oertel, New York.
74 *Health Department Control of Venereal Diseases. P. A. Morrow, New York.
75 Automatism in Insanity. T. H. Kellogg, New York.
76 *Salvarsan in Syphilis. C. F. Marshall, London, England.
77 A Warning Concerning the Use of Salvarsan. W. C. Slusher, Bluefield, W. Va., and E. B. Burchell, New York.
78 Relation of Uterine Fibromyoma to Thyroid Enlargement. J. R. Eastman and H. K. Bonn, Indianapolis.
79 A Bilharziosis Case in Panama W. Baetz, Ancon, C. Z., Panama.
80 Medical Notes Taken in Frankfort-on-the-Main. D. W. Montgomery, San Francisco.

74 **Control of Venereal Diseases.**—The recognition of these diseases by the health authorities, as "detrimental to health and dangerous to life," the necessity of instituting sanitary measures to protect the public health, Morrow believes, will have an educative value. The board of health could do most effectual service in securing a census of venereal morbidity in this city by sending out circular letters to all physicians requesting a statement of the number of cases treated in private practice, the source of infection, and other data, but not giving the name or address of the patient. Morrow would require that every hospital and dispensary report all cases of venereal disease treated in these institutions. A record of the statistics thus obtained would furnish most valuable data for the education of public opinion as to the enormous morbidity caused by this class of diseases, and the necessity of preventive measures. The entering wedge in the obligatory notification of these diseases should be the enforcement of the sanitary law already enacted by the board of health requiring a prompt report of every case of ophthalmia neonatorum. This rule has been enforced by the health authorities of Boston for quite a period, and is sustained by both professional and public sentiment.

76 **Salvarsan in Syphilis.**—Even if the administration of salvarsan was free from dangers and inconveniences, there appear to be in Marshall's opinion few indications for its employment in the treatment of syphilis, but the dangers and inconveniences seem to outweigh any possible benefit to be derived from it.

The Proctologist, St. Louis

June

81 The Enema in Gastro-Intestinal Diseases. C. J. Drueck, Chicago.
82 Salvarsan in Rectal Syphilis. J. L. Boehm, St. Louis.
83 Hemorrhoids. E. S. Bishop, Manchester, England.

West Virginia Medical Journal, Wheeling

July

84 Case of Brain Cyst. J. E. Burns, Wheeling.
85 History and Technic of Skin Grafting. L. P. Jones, Pennsboro.
86 Surgery of Inguinal Hernia. R. J. Reed, Wheeling.
87 Puerperal Infection. H. R. Fairfax, McComas.
88 Hydrotherapy and Massage. M. J. Steele, Charleston.
89 Freud's Ideas on Psychoneuroses. T. A. Williams, Washington, D. C.
90 *B and O R. R. Emergency Splint. W. P. Megrail, Wheeling.
91 Embryonal Cystic Mixed Tumor. J. E. Cannaday, Charleston.

90. **B. and O. Emergency Splint.**—The splint devised by Megrail can be packed in a shoe-box when not in use, so that it can be conveniently carried in the "first aid box" of the

army or city ambulance, railroad caboose or baggage car, or kept in the office of the mine or mill. The splint can be quickly applied to the patient without removing the clothing, by any person who has had a few minutes instruction, and thus place the injured member in a more comfortable and safe position, the parts being held rigid so that no further damage may be done during transportation. The splint is constructed of metallic bands, rods and small clamps. The bands are rolled out of sheet metal, with a slight taper, and are hinged into two parts so that they may be readily placed around the limb. A strip of adhesive plaster, bandage, or if nothing better is at hand a handkerchief, a piece of string or rope is used to bind them in place. It does not make any great difference whether the ends of the bands entirely meet, or overlap each other to some extent. On the outside of the bands near the margin are three sets of staples placed equidistant around the circumference, and into these are fitted rods of such lengths as will best suit the injured member. These rods can be readily bent to any angle when such a position is desired, and if the patient is very heavy double rods may be placed on each side to give sufficient stability. To apply the splint the bands of proper size are placed above and below the injury and as near the joints as possible. Three or more rods are placed in the staples of each band, then the band is clasped and fastened firmly in place, after which the limb is extended into as near a natural position as possible, and the rods of opposite bands are clamped together. In multiple injuries two or more sections may be joined to each other so that the entire limb may be encased within the splint. This splint has been found of great value in making extension in diseases of the joints, particularly those of the shoulder, elbow, hip and knee.

Northwest Medicine, Seattle

July

92 Some Considerations of Tubal Pregnancies. J. A. Pettit, Portland, Ore.
93 Extra-Uterine Pregnancy. E. C. Rich, Ogden, Utah.
94 Tuberculous Enteritis. Perforation of Tuberculous Ulcer. C. A. Smith, Seattle.
95 Tuberculosis of the Cervical Lymph Glands. W. S. Griswold, Seattle.
96 Arterio-Venous Transfusion by the Crile Method. C. N. Suttner, Walla Walla, Wash.
97 Protein Requirements of Man. C. J. Stedman, Portland, Ore.
98 Anaphylaxis. S. A. Owens, Seattle.
99 Case of Hydatid Cyst of the Liver. O. B. Wight, Portland, Ore.

Medical Record, New York

July 15

100 *Malignant Endocarditis in New York City. T. E. Satterthwaite, New York.
101 *Pasteurization of Milk in the Bottle on a Commercial Scale. C. E. North, New York.
102 Hyperchlorhydria and Chronic Dyspepsia. C. S. Fischer, New York.
103 *Top-Milk and Whey for Infant Feeding. R. E. Van Gieson, Brooklyn, N. Y.
104 Significance of Fear in Mental Disease. A Case of Claustrophobia. M. A. Bahr, Indianapolis.
105 Auto-Inoculation. M. J. Synnot, Montclair, N. J.
106 Methods of Physical Examination in the Diagnosis of Surgical Diseases of the Kidney. H. Neuhof, New York.
107 A Case of Abortive Poliomyelitis. R. Stein, New York.

100. **Malignant Endocarditis.**—In a series of 100 cases analyzed by Satterthwaite, thirty-three showed specific germs in the blood or elsewhere; streptococci were found alone in eighteen; staphylococci occurred jointly with them in one; staphylococci occurred alone in five; pneumococci were associated with them in two; pneumococci occurred alone in six; and the gonococcus in one. Under the age of 3 or 4 the disease almost never occurs. It is largely a disease of early middle life, occurring with greatest frequency between the ages of 30 and 40, almost never under 4, and seldom before 14 or after 60. In the Manhattan State Hospital for the Insane with a total of 58,042 patients treated during the ten-year term ending Sept. 3, 1910, not one case of malignant (infective or infectious) endocarditis was registered as such on the books. On the other hand, in Bellevue Hospital, where between 1902 and 1908 there was a total of 204,690 patients, 222 were registered as having infective (malignant) endocarditis, including both the acute and chronic forms. As a rule, with exceptions in very rare cases, malignant endocarditis is accompanied by fever. High temperature was the rule in this series. In only 7 per cent. was there temperature under 102 F. The pulse-rate seemed to vary with the temperature. Petechiæ were noted in 19 per cent. Hemorrhages were noted in only 5 per cent. Implication of the spleen was found in 8 per cent. Headache and diarrhea were frequent. The leukocyte count varied from 6,650 to 36,000; it exceeded 20,000 in only five instances. In twenty-one out of thirty-three examinations it did not exceed 15,000 (63 per cent.). The hemoglobin content was low, most often under 60. Rheumatism was a concomitant in 37 per cent. Pneumonia came next in frequency (6 per cent.). Tuberculosis existed in 5 per cent.; pleurisy and syphilis each in 3 per cent.; gonorrhea in 2 per cent.; cerebrospinal meningitis in 1 per cent.; mammary abscess, suppurative arthritis, colitis, chancre with suppurative buboes, chronic appendicitis, gangrene of foot and miscarriage each, in 1 per cent.; total 66 per cent. Basing a prognosis on the 100 hospital cases, Satterthwaite concludes that in malignant endocarditis 85 per cent. of the patients die, 10 per cent. improve for a time, how long is uncertain, but that in 5 per cent. there is such a degree of improvement that it may be called recovery, so far as the malignant nature of the disease is concerned. Antigonococcal serum was used in one case, other sera in three cases and vaccines five times. In no case was there recovery under these forms of treatment. The indications are for rest, good and abundant food, the liberation of pus when practicable and the use of sulphate of quinin and perhaps iodin internally, and supporting treatment generally. In the five cases reported as improved or cured it appears that the success was due to the use of expectant treatment. In them no specific was given, but each individual symptom was treated as it manifested itself.

101. **Pasteurization of Milk.**—An experimental investigation of the pasteurization apparatus used in breweries leads North to say that among the rather numerous opportunities which have occurred in the past ten years for making examinations of pasteurized milk he has not before obtained from any pasteurizing apparatus of the commercial type results which nearly approached these in excellence. In less than an hour after leaving the pasteurizer the milk in all the bottles had developed a distinct cream line, and the amount of cream appearing at the top of each bottle was sufficient to indicate that the rising cream had not been in any way impaired. The milk was pleasant to the taste and possessed no odor or taste which would suggest that it had been heated. North is convinced that the pasteurization of milk in the bottle on a large scale is entirely possible and practicable. The placing of milk in a glass bottle with a watertight seal, followed by pasteurization of the entire package, guarantees against infection until the bottle is opened and will place the operation of pasteurization as such above criticism. The adoption of this method by the large milk dealer will be a great step in advance and not only give additional protection for the product, but will also give a guarantee to the milk consumer against milk-borne infections which has not existed up to this time.

103. **Top-Milk and Whey for Infant Feeding.**—The central idea of the formulæ used by Van Gieson is the gradual adaptation of foreign substances to weak digestive powers; the great value of lactalbumin solution as a diluent and nourishing soluble protein; the necessity of preserving it intact by using moderate temperatures to inhibit the action of the enzyme; to preserve as nearly as possible the proportions of one-third lactalbumin to two-thirds proteins.

The Journal of Ophthalmology and Oto-Laryngology, Chicago

July

108 Relief of Glaucoma by Subconjunctival Sodium Citrate Injections. H. G. Thomas, Oakland, Cal.
109 Technic of Radical Mastoid Operations. W. H. Tuckerman, Cleveland.

Interstate Medical Journal, St. Louis

July

111 Clinical Significance of Certain Forms of Albuminuria. A. R. Elliott, Chicago.
112 Blood-Pressure and Barometric Pressure in Pulmonary Tuberculosis. J. L. Pomeroy, Monrovia, Cal.
113 *A New Diagnostic Nervous Sign. C. G. Chaddock, St. Louis.

114 Tuberculin Therapy in Clinic and Office Practice. H. L. Shively, New York.
115 Heat Affections. C. P. Shutt, St. Louis.
116 Genesis of Incipient Pulmonary Tuberculosis. E. Von Adelung, Oakland, Cal.

113. **A New Diagnostic Nervous Sign.**—In making examinations of patients, Chaddock was struck by the ready occurrence of the Babinski phenomenon when the same form of irritation that had elicited it from the sole was applied just beneath the external malleolus, while no response could be obtained from other skin areas of the lower extremities. In cases in which irritation of almost any skin area over the lower extremity and lower abdomen called forth extensor toe response, the external inframalleolar area did not distinguish itself in any way. Impressed by the ready external malleolar response, he became accustomed to begin examinations of the skin reflexes by irritation of the external inframalleolar area. He thought he could always foretell thus what response would come from the sole, i. e., with any response in the sense of extension of one or more, or all, of the toes, or with fanning of them he predicted a Babinski from the sole; with no malleolar response he predicted normal plantar flexion. Very soon, however, he found he could not predict; that what he was expecting failed to occur. He noted the following conditions between the relations of the external malleolar non-response and response: (1) in one case of left-sided cranial fracture with no external malleolar response, there were for some days complete abolition of the right skin reflexes with final return of normal plantar; never any malleolar response; (2) in a number of cases in which he obtained a response from the external malleolus, he obtained normal response from the sole; (3) in a few cases after persistence of external malleolar response and normal plantar response, plantar response became abnormal for a time, then disappeared, leaving external malleolar response, which finally disappeared; (4) in other cases with initial plantar and external malleolar response alike of extension, plantar abnormal response changed to normal plantar response, leaving malleolar reponse persistent; (5) in many cases in which plantar response was mixed, i. e., showing flexion and extension and varying strikingly with place or intensity of irritation and with voluntary jerks, external malleolar response removed any doubt of the nature of the plantar response; (6) in several cases of articular deformity limiting movements of the toes, the absence or presence of external malleolar response was decisive for diagnosis. In no case presenting frank toe-phenomena from the sole has he ever failed to elicit the external malleolar response; in several cases presenting no Babinski and many presenting doubtful Babinski, he has found the external malleolar sign reliable as indicative of central lesion, proved by operation to exist, with its disappearance after operation. He has seen it develop alone, to be joined by a Babinski, and persist after the Babinski had changed to normal; he has failed to find it once in a case of abolition of all skin reflexes from cerebral lesion without Babinski; he has never seen it in a normal individual. Chaddock has found it alone (without Babinski) in general paralysis, in skull fracture, transitory unilateral brain lesions, in old hemiplegias, and in undetermined brain lesions, single and double. He has found it in cord lesions. Never has he found it in peripheral lesions or in unmixed tabes.

Western Medical Review, Omaha, Neb.

July

117 Tubal Pregnancy. C. P. Fall, Beatrice, Neb.
118 Progress of Medicine. R. W. Bliss, Omaha, Neb.
119 *Chronic Diarrhea. H. L. Akin, Omaha, Neb.

119. **Chronic Diarrhea.**—Akin recommends in chronic diarrhea systematic lavage of the colon with medicated solutions; weak solutions of silver nitrate, of sulphuric acid and other substances are employed, but he prefers the use of tannic acid, 1 or 2 tablespoonsful to 1 gallon of hot water. Irrigate the bowel thoroughly, putting the patient in the knee-chest position, if necessary, and urging him to retain a portion of the enema as long as possible. He has found it to be most practical and helpful in employing this plan with patients who are very sick, to use a metal rectal irrigator of the recurrent flow type. The patient is dismissed with careful instructions as to the diet, what to use and what to avoid; he is told how to care for himself should he be threatened with any return of the trouble, and is provided with a prescription for an iron tonic, something after the formula of Senator, who gives as follows:

R

	Gm. or c.c.	
Liquoris Potassii Arsenitis	15|	or ℥ss
Tincturæ Ferri Chloridi	60|	or ℥ij

M. et Sig. gtt. V in water, t.i.d., and increase 1 drop a day up to 25, then gradually down again.

Journal of Medical Society of New Jersey, Orange

July

120 *Plea for Attaining and Maintaining a High Standard of Medical Education. T. H. Mackenzie, Trenton.
121 *Advance of Knowledge Regarding the Circulation of the Blood. G. W. Norris, Philadelphia.
122 *Education of a Surgeon. J. A. Blake, New York City.
123 Treatment of Acute Purulent Otitis Media. L. Emerson, Orange.
124 History of Movement for State Registration of Nurses. E. Underhill, Philadelphia.

120, 121 and 122.—Abstracted in THE JOURNAL, July 22, 1911, pp. 315 and 316.

The Journal of Abnormal Psychology, Boston

June

125 *Pathology of Morbid Anxiety. E. Jones, London, England.
126 *Fear, Anxiety and Psychopathic Maladies. B. Sidis, Portsmouth, N. H.
127 Freud's Anxiety Neurosis. J. E. Donley, Providence, R. I.
128 Mechanism of Recurrent Psychopathic States—Anxiety States. M. Prince.

125. **Pathology of Morbid Anxiety.**—Attention carefully directed to the study of anxiety states, Jones says, has shown that they are a great deal commoner than is generally supposed, the significance of the symptoms being often overlooked through clinical ignorance. Psycho-analytic research has further made it highly probable that many kinds and degrees of fear that pass for normal, e. g., fear of fire, of mice, etc., take their origin in unconscious complexes and are psychologically as "abnormal" as any phobia. It is assuring to reflect, continues Jones, that much of the fear, and anxiety, that bulks so large in the sum of human distress, even among the so-called normal, is entirely avoidable, and will one day be prevented when psycho-analytic experience is more widely recognized. The conclusions reached by Jones are condensed into the statement that morbid anxiety means unsatisfied love. That already the Greeks had an intuition of the close connection between these two instincts is indicated by their belief that Phobos and Delmos, the gods of fear, were born of Aphrodite, the goddess of love.

126. **Fear, Anxiety and Psychopathic Maladies.**—Sidis says that the anxiety states of neurosis and psychosis are essentially the offspring of fear. The anxiety states are due to the awakening of the fear instinct normally present in every living being. The fear instinct is a fundamental one, it is present in every normal human being, it is only inhibited by the whole course of civilization and by the training and education of social life. Like the Jinn of the Arabian nights, it slumbers in the breast of every normal individual and comes fully to life in the various neuroses and psychoses. The feeling of anxiety with all its accompanying phenomena is one of the manifestations of the most fundamental, the most potent of animal instincts, the fear instinct which is at the basis of all psychopathic maladies.

Journal of the Kansas Medical Society, Kansas City

July

129 Physical Supervision of the School Child. O. P. Davis, Topeka.
130 Acute Intestinal Obstructions. R. C. Lowman, Kansas City.
131 Diagnosis. E. E. Hubbard, Shawnee.
132 Five Cases of Ectopic Pregnancy. E. E. Morrison, Great Bend.
133 Supervention of Carcinoma on the Site of Chronic Ulcer of the Leg. D. W. Basham, Wichita.
134 Cardiac Arrythmia. T. Jager, Wichita.

Surgery, Gynecology and Obstetrics, Chicago

July

135 *Diagnosis and Treatment of Contracted Pelves. J. M. M. Kerr, Glasgow, Scotland.
136 *Salpingostomy and Pregnancy. G. Gellhorn, St. Louis.
137 *Salpingitis. F. T. Andrews, Chicago.

138 *Anteflexion of the Cervix and Spasm of the Uterine Ligaments in Relation to Retroversion, Dysmenorrhea and Sterility. E. Reynolds, Boston.
139 *End-Results When Hysterectomy Has Been Done and an Ovary Left. J. O. Polak, Brooklyn, N. Y.
140 *Is There Any Clinical or Experimental Proof that the Ovary Has an Internal Secretion? W. H. Morley, Detroit.
141 *Membranous Pericolitis. H. S. Crossen, St. Louis.
142 *The Function of the Ovary. R. T. Frank, New York.
143 Ovarian Transplantation in Lower Animals and Women. F. H. Martin, Chicago.
144 *Conservation of the Ovary. W. W. Chipman, Montreal, Canada.
145 So-Called Essential Hematuria, with Especial Reference to the Hematuria Accompanying Mild Grades of Nephritis. B. R. Schenck, Detroit.
146 Electric Lights for Warming the Operating Table. H. Robb, Cleveland.
147 *A Malignant Intestinal Growth Requiring the Removal of an Unusual Number of Abdominal Structures. T. S. Cullen, Baltimore.
148 *Getting Up Early After Grave Surgical Operations. H. A. Kelley, Baltimore.
149 *Transplantation of the Left Knee-Joint. G. T. Vaughan, Washington, D. C.
150 One Hundred Consecutive Cases of Pelvic Affections in Which Vaginal Drainage Has Been Employed. A. W. Elting and J. L. Donhauser, Albany, N. Y.

135, 136 and 137.—Abstracted in The Journal, June 24, 1911, pp. 1911 and 1912.

138, 139 and 140. Abstracted in The Journal, July 8, 1911, pp. 160 and 161.

141. **Membranous Pericolitis.**—The distinctive symptoms of the three cases cited by Crossen develop from two factors; (1) interference with the peristalsis of the colon and (2) gas distension of the cecum. The pains, though coming in attacks, somewhat like appendicitis or salpingitis, present the features of pain from distension rather than from inflammation. That is, there is no fever, there is not the acute disability caused by peritoneal inflammation, there is not the strictly limited point-tenderness that comes with an inflammatory focus. The pain and tenderness are more or less diffused throughout the right lower abdomen, there is decided gas distention with the attacks of pain, there is a history of the trouble beginning gradually and increasing persistently for one or more years, and there is a history of chronic constipation for many years before the onset of the distinct painful attacks. Other conditions may be associated with the membranous pericolitis, giving atypical cases in which may be found appendicitis, salpingitis or other lesions of adjacent organs with a consequent mingling of symptoms. Speaking of the atypical cases of membranous pericolitis, Crossen wishes to call attention to three important points. 1. The frequent confusion with chronic appendicitis or adnexal disease, because the pain is located in the right lower abdomen and comes in attacks. 2. The necessity of exploration of the ascending colon in all cases in which the adnexal or appendical lesion exposed at operation does not account for the serious symptoms presented by the patient. 3. The question of treatment. The treatment so far has been simple removal of the membrane, with subsequent regulation of the bowels and abdominal support to prevent distention of the cecum. If it fails to effect a permanent cure, then more radical measures will be necessary, particularly in the severe cases, such as excision of the colon, anastomosis of the ileum with the sigmoid, the latter being preferred by Crossen.

142 and 144. Abstracted in The Journal, July 8, 1911, pp. 159 and 160.

147. **A Malignant Intestinal Growth.**—In removing a carcinoma of the sigmoid, several feet of small bowel, the uterus, tubes, ovaries and appendix, in one mass, were also removed by Cullen. The patient on her return to the ward showed a moderate degree of shock. After a week or two she had slight diarrhea, but otherwise manifested no untoward symptoms. At the end of five weeks she returned home in relatively good condition. In June, 1911, about eighteen months after the operation, the patient was rapidly losing weight, had a great deal of abdominal pain, and from the present indications will not survive over a month or six weeks.

148. **Getting Up Early After Grave Surgical Operations.**—Kelly strongly endorses the use of the Gatch frame. He believes that by its use he has secured all the advantages of getting the patient out of bed early, without the awkwardness, the exertion and the disturbance of getting out and in. The convalescence thus takes place in a more or less upright position. If the patient gets tired of the posture after an hour or two, the frame is readily let down nearly flat, when after a little rest it is raised again. In this way, the circulation is improved, the abdominal walls are kept relaxed and the patient makes a prompter, better and a safer recovery. He believes that the general use of these bed frames will enable us to extend to a larger number of patients than we have found possible in the past the advantages claimed by Boldt for his more radical procedure. At any rate it is a happy compromise for the timid surgeon who does not want to drag a miserable, depressed, suffering patient out onto the floor so soon after an aggressive operation.

149. **Transplantation of Left Knee-Joint.**—In a case of tuberculous knee-joint, Vaughan transplanted a normal knee obtained soon after the death of the person. The new joint was placed between the sound ends of the femur and tibia and fastened with four wire and several catgut sutures. The patella was placed in position in front of the new joint, and the ligamentum patellæ was united. The joint was too wide to permit closing of the soft parts, so the outer part of the femur and tibia was trimmed off until it was reduced to the proper size. Opening for drainage was left on each side and the skin was united with silkworm sutures. Gauze and thick cotton dressings were applied. The transfer was made within three hours after the donor's death. There was almost immediate improvement in the patient's condition, pulse and temperature came down from 96 to 72 and 101 to 99 F., respectively, and the pain was less, but suppuration continued and became more copious than ever as time went on. The suppuration continued freely, requiring daily dressing, but the temperature and pulse were not high, ranging from 98.6 to 100 F. and 72 to 90, respectively, and the patient often expressed himself as feeling more comfortable than he had felt for years. A profuse diarrhea set in and death occurred one year, six months and twenty-one days after the operation. Dissection of the parts involved in the operation revealed the following: The transplanted parts had been largely absorbed and their place taken by new bone which had grown into them, at least two-thirds of the foreign bone had disappeared. This was more marked in the tibia, only a thin shell of which was left. Superficial caries existed in the exposed parts which had never healed over. The cartilages had all disappeared. There was only partial union in the femur but fairly good bony union existed in the tibia. There was no union of the articular surfaces with one another except of the patella, which was slightly united by bone with the new portion of the femur, which had partially replaced the transplanted portion. It was evident from the examination that a process of absorption of the transplanted parts was going on as the new bone formed and took its place, the new bone gradually eating up or causing the absorption of the foreign bone.

Colorado Medicine, Denver

July

151 First Year's Experience with the (Bates') Colorado Law for the Examination and Care of Public School Children. M. E. Bates, Denver.
152 Diseases of the Seminal Vesicles. P. J. McHugh, Fort Collins.
153 Intraperitoneal Cystotomy. C. E. Tennant, Denver.
154 Violent Ophthalmia Catarrhalis or Non-Specific Suppurative Ophthalmia. Congenital Cataract. F. E. Wallace, Pueblo.
155 Old Dislocation at the Shoulder. G. W. Miel, Denver.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

July 8

1 Cardiovascular Degeneration. J. M. Bruce.
2 Outlines on Medical Hydrology. R. F. Fox.
3 *Rhizotomy. O. Förster.
4 *Rhizotomy. E. W. H. Groves.
5 *Three Cases of Fibroid Tumor of the Uterus Spontaneously Fatal. A. H. N. Lewers.
6 Therapeutic Effects of Carbon Dioxid Snow. Methods of Collecting and Applying It. J. Hall-Edwards.
7 Three Cases of Tooth-Plate Impacted in the Esophagus and Pharynx. L. E. C. Norbury.
8 Mice Immunized Subcutaneously Are Resistant to the Implantation of Cancer in Internal Organs. W. H. Woglom.
9 A School Outbreak of Enteric Fever. R. W. C. Pierce.

3. **Rhizotomy.**—This operation has now been performed altogether twenty-five times in Förster's service for gastric crises; twenty-two of the patients survived and three died. Three patients succumbed to the immediate effects of the operation; two showed no improvement, the crises persisting. In the remaining twenty cases the operation was successful. Immediately after the resection of the roots the crises disappeared, the body weight increased greatly, and the general condition showed a marked improvement; some of the patients, who until then had been confined to their beds for a long time, have since regained their power to work. In the majority of these cases (thirteen) no relapse has been reported. In several there has been no recurrence of the crises for many months and even for over a year, although before the operation a continuous critical state had persisted. In the remainder of the cases (seven) the crises ceased for a while, but subsequently recurred. Yet, even in these, the critical state has not returned. The crises only occur occasionally, at long intervals; they are of short duration and of moderate intensity. Among this latter group of cases are three patients who have regained the power of gaining a living, one of them being an architect and one a mason.

Förster says that in a number of cases the result of the operation is not perfect, because the system of roots carrying sympathetic nerve fibers of gastro-intestinal origin is very extensive. By the method which has hitherto been practiced of cutting only the seventh to ninth or the seventh to tenth thoracic roots the source of the crises is not always entirely eliminated. Probably the fifth and sixth, as well as the eleventh and twelfth, thoracic roots are also concerned. It is therefore desirable to remove as many of the roots as possible. What is even more important is to determine in every case exactly the situation of the pain, the extent of the hyperesthesia of the skin, and the site of its maximum intensity, since these data may possibly afford a guide as to which roots are chiefly irritated and concerned in causing the crises. The operation has been performed in sixty-two cases for spastic paralysis due to disease of the cortico-spinal path, especially the pyramidal tract; fifty-six patients survived. five died. Thirty-eight of the survivors had congenital spastic paraplegia (Little's disease); almost all of these patients have been benefited by the operation, some of them showing a very marked improvement. Three patients with acquired cerebral spastic paralysis were treated successfully, one of them being a case of hydrocephalus with severe spastic paraplegia. Of four cases of spastic spinal paralysis of traumatic origin, two were successful; of the remaining two, which were failures, in one wrong roots were cut, while in the other the cortico-spinal fibers appear to have been completely interrupted; in this case the spasms disappeared, but voluntary motility did not return. In addition there was one case of Pott's disease which was successful; also two cases of syphilitic spastic paraplegia (Erb), successful; one case of primary spastic paraplegia (Erb-Charcot), successful; two cases of disseminated sclerosis, one of which was not benefited, while the other was at first successful, but subsequently the disease progressed rapidly and the patient died. Of seven cases of spastic paralysis of the arm, five were successful. The remaining two were not benefited owing to the complete interruption of the cortico-spinal paths; in these patients the spasms disappeared, but voluntary motility did not return.

As regards the indications of the operation Förster says that only lesions with real reflex spasticity, as the result of the loss of the cortico-inhibitory fibers, are suitable, but not the diseases of the type of chorea, athetosis, mobile spasms, and spasmodic torticollis; possibly, however, Parkinson's disease may be suitable. Second, there must be a reasonable prospect of innervating fibers of the pyramidal tract still existing, all cases with slight spasms and considerable paralysis being unsuitable. In cases of severe spasms and total voluntary paralysis there may remain a considerable amount of voluntary excitability, only obscured by the spasms and only apparent after their elimination. In such cases the experiment is worth trying. Third, the disease must have become practically stationary, while progressive diseases like disseminated sclerosis are hardly suitable, very slowly progressing ones, like spastic spinal paralysis, being perhaps more promising. Good results can only be obtained with very careful exercise treatment. Such exercises should be continued for years, during which continuous progress may be observed. The assistance of orthopedic measures cannot be dispensed with; above all, it is necessary to place the limbs in removable plaster splints in such a position as to correct the previous deformity. These positions are required during the whole time immediately following the operation, the limbs being only removed from their plaster cases for the purpose of the exercises, which should be carried out several times a day. Later they should still be kept in the splints at night. If besides the real spastic contractions, there are also organic contractions due to shriveling of the muscles and tendons, tenotomy or tenoplasty may also have to be performed.

4. **Rhizotomy.**—For the relief of pain Groves regards the operation of posterior nerve-root resection (rhizotomy) as a somewhat uncertain proceeding. Patients who present very great pain without any organic disease are often of a highly neurotic temperament, and their pain seems to have an important psychical element which is not relieved by the operation. For the relief of visceral crises the operation holds out the only prospect of radical cure which we know of at present. Only those cases of this kind are suitable in which all other means of relief have failed, but on the other hand it is important not to wait until the patient has become debilitated by the emaciation and morphin. In cases of spasm associated with lesions of the pyramidal tract the operation has its largest field of usefulness. Spasm is in all these cases definitely relieved, and if the pyramidal tract is not wholly severed a great improvement of motility results. The operation causes definite chromatolysis of some of the motor cells in the anterior horn of the segments involved, and this is probably associated with the lessening of motor spasm. By the use of epinephrin (adrenalin) injections as a preliminary to the operation the procedure becomes an almost bloodless and speedy one. There is no special shock associated with the division of the posterior nerve-roots. It is better to perform the whole operation in one stage. In dealing with the brachial roots it is best to do a hemilaminectomy. The lumbo-sacral roots are best approached at their junction with the cord rather than at their point of exit from the dura.

5. **Uterine Fibroid Tumor.**—In the three cases reported by Levers, death resulted in one instance from hemorrhage, in another from pulmonary embolism and in the third case from sudden collapse and heart failure.

Medical Press and Circular, London

June 28

10 Ophthalmology in General Practice. C. Worth.
11 *Early Diagnosis and Treatment of Sacro-Iliac Disease. W. I. deC. Wheeler.
12 Should Not Something Be Attempted Against the Spread of Venereal Disease? E. Pelletier.
13 Heredity, Eugenics and Human Welfare; A Plea for a Larger Outlook. J. L. Taylor.

July 5

14 Signs and Diagnosis of Diabetic Coma. H. Rathery.
15 Vaccine Therapy. A. V. Elder.
16 Operations for Varicose Veins. R. E. Kelly.
17 Choice of Operation for Varicose Veins. K. W. Monsarrat.

11. **Sacro-Iliac Disease.**—Wheeler emphasizes that sacro-iliac disease, once well established, is a very fatal one. Radical treatment in the early stages offers a good chance of recovery. The signs and symptoms usually described do not exist in the stages of the disease in which treatment promises most. Vague and persistent pains in the sacro-gluteal and lumbar regions, especially when referred down the sciatic nerve as far as the knee, with no history of previous similar attacks which got well, should arouse suspicions of sacro-iliac disease, no matter what the age of the patient. A radiograph gives valuable information. Early operation to expose and remove the focus of the disease is indicated in this joint as in others. The joint is not inaccessible, and is easily reached through the iliac bone in the center of the fossa occupied by the gluteus medius muscle.

the Roentgen rays on uterine fibromyomas and on climacteric hemorrhages. The best results are obtained when the growth is less than five years old, and the patients between 40 and 50. Fibromyomas that have degenerated and those with a tendency to cysts and hydrorrhea do not seem to be amenable to this treatment. He graduates the dosage by a chromoradiometer based on the iodin liberated by the Roentgen rays in a chloroform solution of iodoform. The anticathode is chilled with water and he uses aluminum filters, and applies the rays from each side and on the median line in turn. The rays induce retrogression of the fibromyoma and of the follicular epithelium of the ovaries while the internal secretion of the ovaries does not seem to be modified until long after.

Semaine Médicale, Paris

July 5, XXXI, No. 27, pp. 313-324

63 *Carbohydrates in the Treatment of Diabetes Mellitus. L. Blum.

63. **Carbohydrates in Diabetes.**—Blum reviews the history of the dietetic treatment of diabetes, especially the oatmeal cure, and gives the tabulated details of the special diet and metabolism in sixteen cases of diabetes. His experience and research throw light on the mechanism of the oatmeal cure. They suggest that the excessive proportion of sugar in the blood is an essential factor in the clinical picture of diabetes. When the patient fasts, this sugar is drawn out of the blood and tissues, and restriction to a diet of green vegetables is *almost equivalent to fasting.* This explains the advantages from restriction to green vegetables for a day or two before commencing the oatmeal cure. It also explains the fluctuation in the tolerance. The condition of the kidneys is another important factor; the kidney cells may become less permeable for the sugar in the blood than normal kidney cells—Neubauer has found an excessive proportion of sugar in the blood in some nephritics without any glycosuria; glycosuria may disappear in the course of nephritis. Blum presents evidence to prove that the success of the oatmeal cure is dependent on the intensity of the disease, proving most effectual in the milder cases. Lampe has reported that von Noorden found that sixty-five were not benefited among the 310 patients given the systematic oatmeal cure, while the condition was aggravated in thirty-five, but Blum, by following the above principles, obtained excellent results in thirty-five cases. In the mild forms the old dietetic methods are equally effectual but even with these the oatmeal cure is more rapid, more easily managed and is accepted better by the patients; it seems to be immaterial whether oatmeal or wheat flour is used. For this class, that is, those who have 20 or 30 gm. of sugar after ingestion of 100 gm. of bread, he gives 200 or 250 gm. of oatmeal with as much butter and, sometimes, three or four eggs or 50 or 75 gm. of some vegetable albumin. After three days he interposes a day of green vegetables only, and the last traces of glycosuria disappear. When the glycosuria is a little more severe he commences with 125 to 150 gm. of the oatmeal but permits the same quantity of butter as above. Such a diet gives plenty of calories. With the severer form of diabetes with acidosis, the oatmeal cure has superior advantages, but not more than 100 gm. should be allowed for a day or two then only 75 gm. for a few days and then a vegetable day. In the mild form it is unnecessary to precede the oatmeal cure with the starvation vegetable day and in the severe form it may be dangerous, while there is every advantage in interposing a vegetable day after two or three days of the oatmeal cure.

Beiträge zur Klinik der Tuberkulose, Würzburg

XX, No. 1, pp. 1-214. Last indexed July 1, p. 52

64 *Tuberculosis in the Liedolsheim District. (Ein Beitrag zur Pathogenese der Tuberkulose.) K. Dörner.

64. **Pathogenesis of Tuberculosis in a Given District.**—The 214 pages of this issue of the *Beiträge* are devoted to a detailed study of conditions in the Liedolsheim district, about 40 miles north of Carlsruhe, Baden, as regards the distribution and inheritance of tuberculosis in a homogeneous population in which tuberculosis is exceptionally frequent and cancer rare. The records since 1852 for a population ranging from 1,812 to 2,084 are tabulated for adults and children under various headings, the mortality from tuberculosis in families, the influence of the dwelling, food, climate and occupation, etc., while 134 pages are devoted to the detailed records of the various families. All the data confirm the danger of infection of the well in a tuberculous environment and the influence of insanitary homes, and that direct inheritance of tuberculosis is a negligible factor in comparison with living in close contact with a consumptive. Dörner does not think that the public sanatoriums are of much use in general prophylaxis of tuberculosis as they do not admit the advanced cases, and these are the ones dangerous for their environment. The recent increase in the fatal non-tuberculous pulmonary affections tends to offset any improvement in the mortality from tuberculosis. The aim should be, he declares, to improve the economic and health conditions in the rural districts and villages; this would not only strengthen the very foundations of the state but would counteract the trend to the cities. In the district studied over half the total deaths from tuberculosis occurred in one-room houses, 15 per cent. of the total houses having 36.4 of all the deaths.

Berliner klinische Wochenschrift

June 26, XLVIII, No. 26, pp. 1165-1212

65 *Fluctuations in Course of Syphilis of the Nervous System. (Ueber die Schwankungen im Verlauf der Nervensyphilis.) J. Benario.

66 *Adapting Capa[illegible] ide in Treatment. (Ueber die [illegible] nismus in ihrer Beziehung z[illegible] M. Katzenstein.

67 Behavior Unde[illegible] Processes in the Skin. (Verh[illegible] der Haut gegen Tuberkulin.) A. Sternberg.

68 Poisoned Arrows from Central Africa. (Giftpfeile aus Kilo von der centralafrikanischen Seenexpedition Seiner Hoheit des Herzogs Adolf Friedrich zur Mecklenburg, 1907-1908.) M. Krause.

69 *Transplantation of Female Genitals into Male Dogs and Application of the Method in the Clinic. E. Engel.

70 *Anus in Vulvar Vestibule. (Anus vestibularis.) J. Pfeifer.

65. **Fluctuations in the Course of Nerve Syphilis.**—Benario has found records in the literature of seventy-six cases of neurorecurrences of syphilis under mercury or potassium iodid alone, and 150 cases under salvarsan treatment. He analyzes this material, tabulating the details and comparing the cases with and without salvarsan, the ophthalmologic findings and the findings in the auditory nerve. From all these data he deduces the conclusion that the neurorecurrences under salvarsan treatment, which Finger published as serious by-effects of salvarsan, in reality should be regarded as purely syphilitic, morbid phenomena. Hence it follows, he says, that Finger's assumption of a toxic neurotropic action on the part of salvarsan is untenable. The treatment of the neurorecurrences should be prompt and energetic. Expectant therapeutic treatment in presence of nervous manifestations of syphilis, he warns, is a very serious matter.

66. **Capacity of the Organism to Adapt Itself to Conditions.**—Katzenstein declares that this strange and interesting faculty of the organism which enables it to adapt itself to circumstances should be utilized in treatment more than is done at present. Nature's methods should be studied more closely and imitated. As an attempt in this line he reports experimental research on dogs, introducing a wisp of intestine or spleen into the animal's stomach. In every case it was promptly digested although the piece thus introduced into the stomach was not detached from the rest of the organ and was well nourished and retained its vitality until totally digested. A wisp of duodenum or of stomach tissue introduced through the wall of the stomach into its interior was not affected by the digestive juices and persisted unharmed. This difference in the fate of the wisps of tissue was evidently due to the presence in the stomach and duodenum walls of some substance which neutralized the action of the pepsin, that is, the walls of these organs must secrete an antipepsin. This suggests the possibility of an artificial production of antipepsin as a causal treatment of gastric ulcer. The adapting capacity of the organism is shown further in the work of the heart and in the bactericidal properties acquired by certain tissues which are liable to be contaminated with bacteria, such as the mouth and the peritoneum; they are able to destroy or tolerate without harm amounts of bacteria which would set up serious mischief if they were introduced into regions where contact with

bacteria is almost excluded, such as the interior of joints, the spinal cord and the brain. Another example of the adapting capacity which may prove a guide to treatment is the action of the adjacent muscles in forcing the blood along in the veins. The veins lack the muscular fibers of the arteries which permit the arteries to enlarge and take up the work of collateral circulation at need. The veins cannot grow in this way; they merely stretch and varices result except where the environing muscles exert such compression on the veins that the contents are mechanically forced along. He thinks that a hint may be discerned here for proper treatment and prevention of varicose enlargement.

69. **Transplantation of Ovaries.**—Engel has been experimenting on animals transplanting the ovaries from one to another, and he here reports two clinical cases of the kind. The sound parts of the ovaries removed from one patient were implanted on the uterus of a second patient whose uterine adnexa had been removed for disease. Both women are in good health and have shown no signs of the artificial menopause otherwise liable after ovariectomy. A number of authors, he states, have published results showing that the women were spared the effects of the artificial menopause when ovarian tissue was left almost anywhere in the body. Croom and Frank have each reported a normal delivery of a healthy child about four years after scraps of the ovaries from another woman had been implanted in the broad ligament. The prospects of retaining normal ovarian functioning are certainly much better, Engel remarks, when the ovaries are implanted directly on the uterus as in his two cases. The interval since has been only a few months.

70. **Anus in Vulvar Vestibule.**—Pfeifer states that the deformity which he calls vestibular anus is one of the rarest and most interesting defects in embryonal development. He knows of only thirty-four cases on record; only eleven of the women bore children; four were married without children. The case reported was that of a young married woman who had never menstruated until after her marriage. Only one of her ten brothers and sisters lived beyond the age of 5, but none was known to be deformed and the parents are healthy. In his patient Botallo's duct was patent. The muscles of the region of the vestibular anus were stout and ensured continence so that he did not attempt any operation, conditions being fairly satisfactory, but he warns of the grave danger liable from gonorrheal infection in such a case involving the rectum.

Deutsche medizinische Wochenschrift, Berlin

June 29, XXXVII, No. 26, pp. 1201-1248

71 Treatment of Pulmonary Emphysema. F. Jamin.
72 *Bronchoscopy in Young Children. G. Killian.
73 Paralysis in Guinea-Pigs demic Poliomyelitis. (Ueber eine s Menschen sehr ähnliche Erkrankur . H. Römer.
74 Sources of Error in Serod: Disease. K. Henius.
75 *Operative Treatment of Suppurative Labyrinthine Meningitis. L. Stacke.
76 Physiologic Action of Light in the Kellogg Light Bath. S. Brustein.
77 Two Cases of Obstinate Fever in Third Stage of Syphilis. A. Scheglmann.
78 *Physiology and Pathology of Digestion. (Verdauung.) M. Cohn. Commenced in No. 25.
79 Successful Mobilization and Suture for Three and One-Half-Inch Gap in Urethra. P. Sick.

72. **Bronchoscopy for Small Children.**—Killian reports nineteen cases, some from his own experience, in which after removal of the foreign body the dyspnea increased after a longer or shorter interval and intubation or tracheotomy became necessary a few hours to a few days later. He is convinced that this occurrence is even more frequent than is shown by the records, and his experiments on the cadaver have revealed the explanation, namely, that the subglottic passage is much narrower than generally supposed and the foreign body, especially if it is one that is forced back and forth by the breath, is almost certain to irritate this space. The diameter of the subglottic space is not over 3.5 mm. in a child 8 months old, 45 cm. in height, while at 2 years the diameter is only 6.5 mm., the child 80 cm. tall, and 7 mm. at 3 years, 94 cm. tall. At the age of 7 the diameter is 8 mm., the child 120 cm. tall; at 10 the diameter is 9.5 mm.—these are averages of 22 fresh cadavers. Analysis of the nineteen cases reported shows that the size of the tube used in bronchoscopy was too large for the diameter of the subglottic space, judging from the child's age. In addition to this inevitable injury, there must have been trauma from the introduction of the tube, especially when the foreign body was a bean or similar substance that had swollen, so that there was great difficulty in extracting it, which had to be done in fragments. The longer the interval before removal when a smooth body like a bead had been propelled by the breath again and again against the glottis the greater the inflammation. Killian's study of the subject shows that any pronounced swelling in the subglottic region should contra-indicate bronchoscopy from above. In a recent case of this kind the subglottic swelling would certainly have become dangerously severe if he had introduced the tube, so he did not attempt it but easily removed the small pebble through a tracheotomy opening, with the further advantage that the subglottic swelling promptly subsided spontaneously, so that the cannula could be removed the very same evening. Upper bronchoscopy is also contra-indicated when the foreign body is a bean, as these swell so quickly and so much that they cannot be extracted through the larynx.

75. **Labyrinthine Meningitis.**—Stacke comments on the good prospects for operative treatment in meningitis propagated from the middle ear by way of the labyrinth. Since we have learned to detect functional disturbances in the labyrinth, especially in the vestibule, it is no longer difficult to diagnose these cases in their incipiency, detecting them in the phase of suppuration in the labyrinth, the diagnosis facilitated by the findings on rachicentesis. The latter shows whether the dura will have to be incised. A deep abscess may form in the cerebellum instead of diffuse meningitis developing, in which case the incision will have to be carried into the cerebellum. Alexander has reported a case thus cured, Wittmaack two, and Stacke here reports the details of another. The last patient was a woman of 34, cured by the operation, which put an end also to the chronic ear affection. Stacke emphasizes the importance of lumbar puncture in ear disease, the findings not only revealing intracranial otitic complications by the composition of the fluid, but also by the pressure. With repeated lumbar puncture he has been able to detect and operate for an intracranial complication before serious harm had been done, and also to refrain from operating in dubious cases in which the course proved the correctness of the conclusions drawn from the normal cerebrospinal fluid. He has never witnessed the slightest harmful by-effect from lumbar puncture, and it gave the clue to successful treatment in the case reported; the cure has been complete for two years to date. Vomiting is one of the gravest symptoms when it comes on with a suppurative ear disease, especially when accompanied by vertigo, fever or intense headache. Rachicentesis should be done at once. He regards the radical operation as indicated with these symptoms even when the fluid is clear, but if the severe symptoms do not promptly and permanently subside, the labyrinth should be operated at once, and repeated lumbar puncture will permit an oversight of conditions as the cure progresses. Success depends on the promptness of the intervention.

78. **Physiology and Pathology of Digestion.**—Cohn has obtained very instructive findings by having the patient swallow two small capsules filled with bismuth and then examining him with the Roentgen rays. The ordinary bismuth technic distends the stomach and distorts the actual picture, while one or both of the bismuth capsules float on top of the stomach content and may be arrested at a point much higher than the stenosis is apparently located by other technics. The higher the stenosis the more difficult the operation, as the point is hidden by the ribs. Even after the ordinary bismuth suspension technic has been applied, it is a good plan to follow it with the bismuth capsules, as this may confirm the enlargement in connection with spastic stenosis and thus differentiate a pyloric ulcer. He gives radiographs of a number of typical cases, showing various unexpected features of the physiologic processes in the intestines; among them is one that

shows three segments of the large intestine contracted concentrically at brief intervals, so that the shadow is like that of three strings of beads. He explains this tonic contraction in part as a process to squeeze the fluid out of the feces—part of the physiologic task of the large intestine. He ascribes great importance to the intestinal gases as a factor in the movements of the feces, regarding the gases accumulated at the splenic flexure as a kind of buffer, so that the splenic flexure may be regarded as the first natural sphincter. Any exaggeration of this normal sphincter function would lead to distention of the large intestine, the meteorism possibly so severe as to induce distention ulcers. The gases accumulate mainly on the left side and are liable to push the stomach far over to the right, stretching it into queer shapes. This may explain some of the puzzling radiographs of the stomach. He found extensive accumulations of gas in the splenic flexure with pathologic conditions in the left chest, some inflammatory affection there arresting by reflex action the excursions of the diaphragm on that side. The accumulated gases at the splenic flexure push up the paralyzed diaphragm and may alter the position of the heart and large vessels; throwing light on certain hitherto puzzling functional disturbances. In examining with the Roentgen rays it must be remembered that the gases seek always the highest point, and thus they change about as the person lies or stands. In conclusion, Cohn urges physiologists to pay greater attention to research with the Roentgen rays in this special field of work. His previous communication on this floating capsule test of stomach functioning was summarized in The Journal, Nov. 5, 1910, page 1688. One of the capsules contains half a gram and the other a gram of bismuth, so that one will float and the other sink to the bottom, or both are given of the same weight so that the two will float side by side. When they are then seen one above the other it shows that the lumen has become contracted, so that there is only room for one at a time.

Jahrbuch für Kinderheilkunde, Berlin

June, LXXIII, No. 6, pp. 675-790

80 *Cerebral Infantile Paralysis. (Zur Klinik und Pathologie der cerebralen Kinderlähmungen.) A. Lindemann and F. v. Marenholtz.
81 *Splenic Anemia in Children. S. Ostrowski.
82 *Roentgen-Ray Examination of Cicatricial Stenosis of the Esophagus in Children. H. Flesch and I. Peteri.
83 Chvostek's Sign Suspended on Approach of Convulsions. (Facialisphänomen und eklamptischer Anfall.) W. Stoeltzner.
84 *Intercurrent Vaccination Aborts Whooping-Cough in Infants. (Zur Behandlung des Keuchhustens im frühen Säuglingsalter.) Mehnert.

80. **Cerebral Infantile Paralysis.**—Lindemann and Marenholtz report four cases of cerebral paralysis in its initial stage in infants with necropsy findings. They belonged to the class of vascular lesions with hemorrhage in the brain or meninges or subdural space resulting from trauma affecting the skull or other mechanical injury before, during or after birth, and checking the growth of parts of the brain. Cerebral paralysis resulting from actual malformation in the germinal tissue is comparatively rare, while encephalitic processes due to various infections or intestinal affections are more common. This classification of cerebral paralysis into these three groups according to origin is more rational than classifying them by symptoms which may be common to all forms.

81. **Splenic Anemia.**—Ostrowski reviews the clinical picture of splenic anemia as he has observed it in ten infants between 1 and 3 years old. All had been fed early with cow's milk, and there was a history of diarrhea in all. The children were under weight and pale and had rachitis to a greater or less extent. The spleen was enlarged, but the liver was of normal or nearly normal size, and the lymph-nodes were not enlarged. He is convinced from these experiences and study of the literature that splenic anemia is a secondary condition, generally following some catarrhal affection of the digestive tract in undernourished children. The changes in the red corpuscles are typical of splenic anemia. In differentiating it from leukemia, note the lack of noticeable leukocytosis and the changes in the lymph-glands with the comparatively small proportion of myelocytes in the blood. The prognosis of splenic anemia is grave, he adds, saying that treatment seems to be necessarily restricted to iron, arsenic and the Roentgen rays.

82. **Roentgen-Ray Examination of Stenosis of the Esophagus in Children.**—Flesch and Peteri comment on the shocking frequency in children in Austro-Hungary of corrosion of the esophagus from drinking lye. At the Stefanie hospital at Budapest there have been in the last nine years 516 cases of acute disturbances from this cause, and 267 cases of cicatricial stenosis of the esophagus, all the result of leaving a solution of lye ready to be used in washing, within reach of young children. It has proved possible to examine the condition with the Roentgen rays by having the children swallow a soft porridge containing 30 or 40 per cent. of oxid of zirconium. This substance is insoluble in acids, strong alkalies, etc., and seems to have no action when injected subcutaneously into animals so that no toxic action need be feared from it; for Roentgen work it has several advantages over bismuth. As the child swallows each mouthful of the porridge, the progress of the mouthful down the gullet can be watched with the Roentgen rays, and the regions where it passes along smoothly and where it seems to be arrested or makes its way slowly are marked and compared. By this means it has proved possible to detect multiple strictures, and treatment applied on the knowledge thus obtained has proved remarkably successful instead of the blind, haphazard work without radioscopy. The details of twenty cases are given to show the workings of the method. Investigation in this way can be applied during the first six weeks after the injury when it is still dangerous to introduce a sound.

84. **Vaccination in Treatment of Whooping-Cough in Infants.**—Mehnert writes from Jamestown, Cape Colony, to expatiate on the remarkable way in which whooping-cough disappears in young infants after an intercurrent vaccination. The children must be protected from renewed whooping-cough infection, and if not seen until the stage of venous congestion in the brain has been reached, venesection may be advisable in addition to the vaccination. The effect of the vaccination does not seem to be modified by the presence of the pertussis. He is so convinced of the efficacy of vaccination as a means of aborting pertussis, that he suggests the advisability of postponing the vaccination of infants until they are a year or so old, so as to utilize its dual action in case of an epidemic of whooping-cough.

Medizinische Klinik, Berlin

June 25, VII, No. 26, pp. 991-1030 and Supplement

85 *Strabismus and the General Constitution. (Schielen und Gesamtveranlagung.) F. Krusius.
86 *Treatment of Acute Pancreatitis. H. H. Dreesmann.
87 *Two Cases of Febrile Iodin Poisoning. (Jodfieber.) A. Konried.
88 Dupuytren's Contracture as Trophic Element in Clinical Picture of Tabes. G. Stiefler.
89 Advantages of Tuberculin in Treatment of Tuberculosis of the Kidneys. (Weitere Erfahrungen über die specifische Therapie der Nierentuberkulose.) W. Karo.
90 Bacteria Content in Sputum, Blood and Stool with Pulmonary and Intestinal Tuberculosis. (Vergleichende Untersuchungen des Bakteriengehalts im Auswurf, Blut und Kot bei tuberkulöser Lungenschwindsucht und tuberkulöser Darmerkrankung.) W. Boer.
91 Pathogenesis, Diagnosis and Treatment of Polyneuritis. R. Bing.

85. **Strabismus and the General Constitution.**—Krusius has found in his experience that children with squint were either mentally backward or exceptionally bright and ambitious—each a psychopathic extreme, or there were other signs that the children were below par. A latent tendency to squint may be observed in such children which may develop into actual squint after some fright, overexertion or infectious disease. He has witnessed the spontaneous cure of squint after removal of polyps in the nose and after a course of hygienic measures tending to restore normal balance in the physical and mental development. The general practitioner should be on the watch for the tendency to squint and should oversee the child's development, not letting the parents foster the ambition of the nervous child, while seeking to arouse it in the apathetic. Tact, patience and skill are necessary for the task, but this alone goes to the root of the matter, and by removal of the underlying cause puts an end to the disturbances.

86. Acute Pancreatitis.—Dreesmann reports nine additional cases since his last publication on this subject. Even when operative treatment is being considered, internal measures should not be neglected. Chief among these are the dietetic, restricting the patient to a strict antidiabetic diet, the advantages of which have been proved beyond question by his own and others' experience. As a further means to reduce the secretion of pancreatic juice, sodium bicarbonate by the mouth during meals has been recommended, but he does not think it necessary unless an operation is impending. Sedatives and stimulants are indicated, but saline infusion has not yet proved its efficacy in acute pancreatitis, and Pewsner's research seems to indicate that large amounts of salt are liable to do harm. Complete rest in bed is necessary, with ice at first and later warmth, guided by the patient's feelings. Personally, Dreesmann has had the best results with superheated air, not going above 80 C. Rinsing out the stomach may also be useful. In conclusion, he warns that patients who have passed through an attack of pancreatitis should be kept under supervision for several years, as the acute pancreatitis may recur or may pass into a chronic phase—the conditions are much the same as with appendicitis; and prophylactic measures are equally indicated.

87. Iodin Fever.—In Konried's first case a man of 65 with signs of amyotrophic lateral sclerosis was given potassium iodid and his temperature soon rose to fever heat. The iodid was discontinued, after which the temperature subsided to normal, but rose again each time iodin in any form was given him except by percutaneous cataphoresis of iodin salts. The patient felt well otherwise during the recurring fever, with good appetite and sleep, and the heart and lungs normal, except for a slightly increased pulse-rate and respiration. The thyroid was persistently normal. In the second case a woman of 33 presented the clinical picture of acute circumscribed thyroiditis on two occasions, and it was learned that each had followed the local application of an iodin salve without medical advice; the thyroid was a little enlarged.

Münchener medizinische Wochenschrift

June 27, LVIII, No. 26, pp. 1385-1432

92 Research on Chemical Functioning of the Cells. (Methode zum Studium der chemischen Zellfunktionen und deren Resultate.) M. Hahn.
93 *Pharmacologic Bases for Intravenous Epinephrin Therapy W. Straub.
94 Sugar Puncture. (Zur Kenntnis der Piqure-Glykosurie.) E. T. v. Brücke.
95 Local Anesthesia for Operations on the Kidneys. A. Läwen
96 *Influence of Temperature on the Wassermann Reaction. H
97 [illegible] of the Bladder. (Ueber Blasenek [illegible] E. Rehn.
98 *Pancreas Treatment in Diabetes. E. Leschke.
99 Photographing Special Features of Diseases in Children (Zur Technik der Photographie von Krankheitserscheinungen im Kindesalter.) J. Ibrahim.
100 Spontaneous *Delivery* with Contracted Pelvis. (Spontangeburten bei engem Becken.) O. Jaeger.
101 Fifty Years of Research on Aphasia. P. Marie.
102 *Medical Impressions of America. F. Lange.

93. Continuous Intravenous Infusion of Epinephrin.—Straub reports research which *confirms* the assumption that epinephrin has no cumulative action. Its action, further, is exclusively local, that is, only on direct contact. This teaches that the continual infusion of a weak solution of epinephrin may prove a useful measure in therapeutics. It is thus possible to send the solution continuously into a vein and thus keep up the blood-pressure permanently while this is being done—the effect being dependent on the concentration of the solution, not on the absolute amount of epinephrin infused. It is probable that epinephrin is destroyed with peculiar rapidity; it vanishes from the blood completely and as rapidly as its action subsides.

96. Influence of the Temperature on the Wassermann Reaction.—Guggenheimer found in some cases a negative reaction at room temperature when the serum gave a positive reaction at the freezing-point. He could not *detect any* special laws regulating this in the twenty cases among the 628 tested in which this parodoxical behavior of the reaction was observed. It suggests, however, that in dubious cases it might be wise to test the serum at both temperatures.

98. Pancreas Therapy in Diabetes.—Leschke's experimental research shows that fresh pancreas extract increases the elimination of sugar in diabetic persons and animals, and also induces glycosuria in normal animals, with a toxic and even fatal action.

102. Medical Impressions of America.—Lange of Munich pays high tribute to the orthopedists of America and the many points in which they lead the world. He describes his visit here as guest of the annual meeting of the *Orthopedic* Association in Washington last year, and extols a number of features of medical education and *institutional work*. He remarks that the students of a good school like Harvard and Johns Hopkins are much better informed and better skilled in surgery and orthopedics than the corresponding students at the German universities—stating that he had ample evidence himself of this. Even in most of the other branches, he continues, according to the judgment of professors who have taught both at German and American universities, the average American student is superior to the German, and he thinks that this fact should cause the Germans to pause and ponder.

Wiener klinische Wochenschrift, Vienna

June 29, XXIV, No. 26, pp. 927-962

103 *Microscopic Examination of the Bile in Diagnosis. E. Petry.
104 Influenzal Suppurative Meningitis. E. Prasek and T. Zatelli.
105 Bismuth Paste in Treatment of Cold Abscess. E. G. Beck.
106 Cancer of Common Bile Duct. (Zur Chirurgie des Choledochuskrebses.) *Spindler*.

103. Microscopic Examination of the Bile for Diagnostic Purposes.—Petry has found microscopic fragments of gall-stones in the bile in cholelithiasis, and thinks it possible that this means of investigation may render valuable service. It is easy to see from the characteristics of the microscopic stones whether they are minute, independent concrements or splinters knocked off from the rubbing together of large stones. He obtains fresh bile for the purpose by siphoning out the stomach content half or three-quarters of an hour after the patient has ingested in the morning, fasting, 200 c.c. of olive oil at room temperature. Boldyreff announced in 1904 that *oil* taken in this way causes the pylorus to open and bile and pancreatic juice then flow into the stomach. Vollhard applies this method to obtain pancreatic juice for examination, and Weber in 1908 found it useful to determine the presence of typhoid bacilli in the bile. Petry was able not only to *detect* the presence of microscopic concrements in the bile in cholelithiasis, but he found characteristic liver cells in the bile obtained in this way in six hares with chronic phosphorus poisoning. This suggests the possibility that liver *affections* may be diagnosed in this way in dubious cases. Since last summer Petry has been testing with the oil breakfast every patient suspected of cholelithiasis. In the first four cases nothing pathologic could be detected in the bile, but in the fifth case the bile contained minute independent concrements exactly like the large gall-stones found at the laparotomy. He gives illustrations of the microscopic *findings* in various cases, and discusses the differential significance of pathologically altered leukocytes in the bile and also of cholesterin crystals.

Zentralblatt für Chirurgie, Leipsic

July 1, XXXVIII, No. 26, pp. 889-920

107 Tincture of Iodin Sterilization. (Ueber Grossich's Jodtinkturdesinfektion postoperativen Ileus, Ikterus und Hautnekrosen.) R Bertelsmann.
108 Behavior of Intestine in Respect to Digestive Activity of the Gastric Juice. (Verhalten des Darmes gegenüber der Verdauungstätigkeit des Magensaftes.) P. Fiori.
109 Care of Stump After Resection of Stomach. (Zur Stumpfversorgung nach Magenresektion.) E. Polya.

Zentralblatt für Gynäkologie, Leipsic

July 1, XXXV, No. 26, pp. 921-952

110 Importance of Systematic Collecting and Manifolding of Photographs of Clinical Cases for Teaching Purposes. (Zur Hebung des klinischen Anschauungsunterrichts.) J. Reich.
111 Operative Cure of "Vaginal Atresia of the Anus." E. Pozsonyi.
112 Influence of Depression of Left Half of Pelvis on Type of Presentation. (Ursache der verschiedenen Schädellagen.) R. Drenkhahn.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 25, XXXII, No. 76, pp. 803-818

113 Management of Abdominal Contusions. G. Tomaselli

June 27, No. 77, pp. 819-826

114 Operations for Spina Bifida and Occipital Hydrocephalus. E. Chiavellati.

Policlinico, Rome

June 25, XVIII, No. 26, pp. 809-840

115 The So-Called Giant Flagella of Bacteria. (Sopra le cosiddette ciglia giganti o composte dei batteri.) G. Rocchi.
116 *Rhizotomy in Treatment of Tabes. (L'operazione di Mingazzini-Förster nella cura della tabe.) E. Tramonti.
117 Intermittent Fever in Cystitis in Young Children. V. Fusco.

116. **Rhizotomy in Treatment of Tabes.**—Tramonti claims for his compatriot, Professor Mingazzini of Rome, the priority for suggestion of the operation of section of the posterior spinal nerve roots for the relief of pain, but this operation is generally known now as the Förster operation, as Förster of Breslau published it as a "New Operative Method of Treating Spastic Paralysis" in 1908. The operation, however, is listed in the later American dictionaries as Dana's operation (C. L. Dana, New York), "resection of the posterior spinal nerve roots for neuralgia, athetosis and spastic paralysis." Mingazzini's recommendation of it for tabes was made at a meeting of the Accademia Medica of Rome, March 26, 1899. Förster ascribes the first operation of the kind to Abbe in 1888.

Riforma Medica, Naples

June 26, XXVII, No. 26, pp. 701-728

118 Neurasthenia. L. Bianchi.
119 Multiple Sarcomas in Small Intestine. C. Pavesio.

Hospitalstidende, Copenhagen

May 10, LIV, No. 19, pp. 505-536

120 *Phlegmonous Gastritis. J. Jensen. Commenced in No. 18.

May 17, No. 20, pp. 537-560

121 *Animal Remedy for Scorbutus in Greenland. (Animalske antiscorbutica i Grønland.) A. Bertelsen.
122 Importance of the Wassermann Reaction in Rhinology. O. Strandberg.

May 24, No. 21, pp. 561-584

123 *Tuberculin Treatment. (Nogle Forsøg med Tuberkulinbehandling.) O. Helms.

120. **Phlegmonus Gastritis.**—Jensen gives the detailed histories of ten Danish cases, and has found 121 cases on record in the literature elsewhere. The diagnosis of the affection, which used to be impossible, has been made during life in a constantly larger proportion of cases. As a rule, the phlegmonous gastritis is supposed to be typhoid fever, notwithstanding its more sudden onset and abrupt rise in temperature. Meningitis was diagnosed erroneously in two cases, and Löwenstein ascribed the disturbances to a concomitant erysipelas. In one of Jensen's cases they were ascribed to septicemia from a casual trauma. The gastric symptoms generally predominate, the vomiting being more incessant and violent, he says, than with any other affection. The vomit may be purulent, and this gave the clue in Leube's case. There is not so much systemic disturbance or such high fever with other stomach affections likely to be confounded with it. The pain in the stomach is intense and sudden, but it varies with intermissions. The pain, tenderness and spasm are at first above the umbilicus, but gradually spread downward as the peritoneum becomes involved. In one of Jensen's cases the local pain seemed to be limited to the gall-bladder, whence it radiated to the epigastrium and abdomen, but there was no jaundice, and the frequent eructations and hiccup in connection with the slight local tenderness and severe general disturbances suggested more a retroperitoneal lesion. The clinical picture resembles that of subphrenic peritonitis after perforation of a gastric ulcer. Acute hemorrhagic pancreatitis is seldom accompanied by such high fever as the phlegmonous gastritis. The patient may die during the first two or three days, or there may be a remission of symptoms until the fatal peritonitis develops. Seven writers have reported recovery after vomiting up of pus, but the ten Danish cases all terminated fatally in from forty hours to eleven days. Mikulicz operated successfully in one case, as also Bovee in a woman near term, while a number of operative attempts are on record. In several of the ten Danish cases the finding of circumscribed peritonitis at necropsy showed that operative intervention in time might have saved the patients; they died on the fifth or eighth day. In two of his cases there was a cancer in the stomach, and the phlegmonous gastritis developed suddenly after introduction of a stomach sound. In another the sound had been introduced to aid in feeding an insane woman, but this was followed at once by the signs of purulent gastritis with death in two days.

121. **Animal Remedy for Scorbutus in Greenland.**—Bertelsen states that scorbutus is prevalent in Greenland, the very name Eskimo meaning "eaters of raw meat." But, he adds, the natives have empirically found a remedy for the scurvy, namely, chewing the skin of the narwhal, the unicorn-whale. He describes research, with illustrations, showing that the skin of this fish contains a remarkable amount of glycogen, thus supplying sufficient quantities of a carbohydrate to cure the scorbutus. The walrus liver also contains much glycogen.

123. **Tuberculin Treatment.**—Helms reviews his experiences with different kinds of tuberculin in 300 patients with various stages of pulmonary tuberculosis. While the results were not very striking, yet they encourage further work in this line with "old" tuberculin, he declares, and suggests that the treatment need not be feared even if it does occasionally induce a little reaction.

Hygiea, Stockholm

June, LXXIII, No. 6, pp. 673-783

124 Mercuriol-Oil in Syphilis. (Om merkuriol-oljans indikationer och dosering samt om kvicksilfverintoxikation och angina resp. stomatitis ulcero-gangrænosa.) M. Möller.
125 *Experiences with Cataract Operations. (Erfarenheter angående linsens aflägsnande ur ögat.) K. Bjerke.
126 *Combined Action of Sodium Iodid Taken Internally and Ozone Inhaled in Local Treatment of Tuberculosis. ("Fallet Ester.") S. A. Pfannenstill.

125. **Experiences with Cataract Operations.**—Bjerke reviews twenty years of ophthalmologic work, especially with cataract. One of his patients had senile delirium and tore off the dressings again and again after the cataract had been removed, but without impairing the success of the operation. In another case he successfully removed a cataract from each eye of a man who had been blind from this cause since his tenth year.

126. **The Two-Way Route in Local Treatment of Tuberculosis.**—Pfannenstill here reports the final outcome of an especially severe case of pulmonary tuberculosis in a woman with inherited syphilitic taint whose extensive throat lesions healed completely under the combined action of sodium iodid taken internally and ozone inhaled. Nascent oxygen was formed when the ozone came in contact with the sodium iodid attracted from within to the lesion. (His previous communication on this method of local treatment was summarized in THE JOURNAL, July 16, 1910, page 264.)

Ugeskrift for Læger, Copenhagen

June 8, LXXIII, No. 23, pp. 823-870

127 The Tasks for School Hygiene. (Skolehygiejnens Opgaver i Nutiden.) P. Hertz.
128 The Use of Sulphuric Acid in Manufacture of Cereals. (Om Præparation af Levnedsmidler, specielt Byggryn, med Svovlsyrling.) A. Hansen.

Books Received

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